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## ***Waste Management Plan for the Staging and Storage Annex (CPP-1789)***



Idaho National Engineering and Environmental Laboratory

# **Waste Management Plan for the Staging and Storage Annex (CPP-1789)**

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## **ABSTRACT**

The Idaho National Engineering and Environmental Laboratory (INEEL) is a U.S. Department of Energy (DOE) facility with various missions including environmental cleanup. One of the INEEL facilities is the Idaho Nuclear Technology and Engineering Center (INTEC), which, under the Federal Facility Agreement and Consent Order (FFA/CO), is referred to as Waste Area Group (WAG) 3. The Staging and Storage Annex (SSA), CPP-1789, is a temporary accumulation storage area within INTEC for Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) -generated wastes requiring temporary storage pending operational availability of the Staging, Storage, Sizing, and Treatment Facility (SSSTF) and INEEL CERCLA Disposal Facility (ICDF). CERCLA waste includes investigation-derived waste, along with remedial and removal waste, from within the WAG 3 area of contamination (AOC), as well as waste from outside the WAG 3 AOC and from other WAGs at the INEEL. The container inventory of the SSA is monitored or managed using the Integrated Waste Tracking System (IWTS). IWTS calculates the curie content for the hazard classification of the SSA and will not exceed 90% of the Category 3 threshold values. The purpose of this document is to discuss the waste management practices associated with the SSA.

This plan was written exclusively for the management of temporarily accumulated waste at the SSA. The SSA is being managed in accordance with this Waste Management Plan (WMP), SSA operating procedure (TPR-6834), and job safety analysis (JSA) -508 pending the opening of the SSSTF within the ICDF. When the SSSTF becomes operational, the SSA will then become part of the staging and storage areas for the SSSTF. As part of the ICDF Complex, the SSA will continue to be managed by the WAG 3 and INTEC operations supervisors.

As more information becomes available regarding the waste being received by the SSA, the process defined in the FFA/CO will be used if this document requires modification.



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## ACRONYMS

AEA	Atomic Energy Act
ALARA	as low as reasonably achievable
AOC	area of contamination
ARARs	applicable or relevant and appropriate requirements
CAMU	Corrective Action Management Unit
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFA	Central Facilities Area
CFR	Code of Federal Regulations
CLP	Contract Laboratory Program
CWID	CERCLA Waste Inventory Database
DOE	Department of Energy
DOE-ID	Department of Energy Idaho Operations Office
DOT	Department of Transportation
DQO	data quality objective
EPA	Environmental Protection Agency
FFA/CO	Federal Facility Agreement and Consent Order
HIC	high-integrity container
ICDF	INEEL CERCLA Disposal Facility
IDEQ	Idaho Department of Environmental Quality
IDW	investigation-derived waste
INEEL	Idaho National Engineering and Environmental Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
ISMS	Integrated Safety Management System
IWTS	Integrated Waste Tracking System
JSA	job safety analysis

LDR	land disposal restriction
LLW	low-level waste
MCL	maximum contaminant level
MCP	management control procedure
MLLW	mixed low-level waste
OU	operable unit
OS	operations supervisor
PCBs	polychlorinated biphenyls
PVC	polyvinyl chloride
PPE	personal protective equipment
RCRA	Resource Conservation and Recovery Act
RCT	radiological control technician
RD/RA	remedial design/remedial action
RMA	Radioactive Materials Area
ROD	Record of Decision
RRWAC	reusable property, recyclable materials, and waste acceptance criteria
RWMC	Radioactive Waste Management Complex
RWP	radiological work permit
SMO	Sample Management Office
SNF	spent nuclear fuel
SP	staging pile
SPCC	spill prevention control and countermeasures
SRPA	Snake River Plain Aquifer
SSA	Staging and Storage Annex
SSST	staging, storage, sizing, and treatment
SSSTF	Staging, Storage, Sizing, and Treatment Facility

TAN	Test Area North
TCLP	toxicity characteristic leaching procedure
TRA	Test Reactor Area
TRU	transuranic
TSCA	Toxic Substances Control Act
VCT	Vertical Closed Top
VOC	volatile organic compound
VOT	Vertical Open Top
VPP	Voluntary Protection Program
WAC	Waste Acceptance Criteria
WAG	waste area group
WMP	waste management plan



## NOMENCLATURE

The following definitions are presented as an aid to reader understanding of technical and scientific terms used within this document.

**Analytical residue and sample preservative residue:** Field preparation and laboratory analyses produce sample preservatives and analytical residue. The characteristics of these residues vary depending on the performed analyses, but may include aqueous and organic solutions.

**CERCLA-derived remediation and removal wastes:** These are wastes from CERCLA activities that may include, but are not limited to, soil, water, contaminated personal protective equipment (PPE), filters, and other support equipment that cannot be decontaminated.

**Construction wastes:** Wastes generated during the on-site construction of CERCLA-related facilities. These wastes are anticipated to be primarily nonhazardous solid wastes which could be sent to the INEEL solid/industrial waste landfill complex.

**Contaminated equipment:** Equipment that has been contaminated during the remediation process and that cannot be decontaminated. Contaminated equipment becomes a waste stream if it cannot be properly decontaminated or reused for another drilling program.

**Debris:** Solid material larger than a 60-mm particle that is a manufactured object, plant or animal matter, or natural geologic material and is intended for disposal. However, the following materials are not considered to be debris:

- Any material for which a specific treatment standard is provided in Subpart D of 40 CFR 268, such as lead acid batteries, cadmium batteries, and radioactive lead solids
- Process residuals, such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues
- Intact containers of hazardous waste that retain at least 75% of their original volume.

A mixture of debris and other material that has not been treated to the standards provided by 40 CFR 268.45 is subject to regulation as debris, if the mixture is composed primarily of debris, by volume, based on visual inspection.

**Drill cuttings:** The downhole return produced by boring. Perched and development Snake River Plain Aquifer water well installation is expected to generate a substantial volume of drill cuttings. Drill cuttings are generated from well installation activities.

**Facility:** An area within the boundaries of a DOE-controlled site that is access-controlled to prevent public access, for example, Test Reactor Area (TRA), Idaho Nuclear Technology and Engineering Center (INTEC), and Test Area North (TAN).

**Free liquids:** Liquids that can readily separate from the solid portion of a waste under ambient temperature and pressure (DOE Order 435.1), as demonstrated by "EPA Paint Filter Liquids Test Method 9095."

**Hazardous debris:** Debris that contains a hazardous waste listed in Subpart D of 40 CFR 261 or that exhibits a characteristic of hazardous waste identified in Subpart C of 40 CFR 261.

**Hazardous substances:** For DOT, an EPA hazardous substance equal to or exceeding its reportable quantity (RQ). Below its RQ, DOT does not consider it to be a DOT hazardous substance.

**Hazardous waste:** Waste designated as hazardous by the U.S. Environmental Protection Agency (EPA) regulations (40 CFR 261.3) and regulated under RCRA.

**High-level waste:** Highly radioactive waste material. High-level waste results from the reprocessing of spent nuclear fuel, including the liquid waste produced directly during reprocessing. Per DOE Order 435.1, the term refers to any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and to other highly radioactive material that is determined, consistent with existing law, to require permanent isolation. (Adapted from: Nuclear Waste Policy Act of 1982, as amended.)

**Hydraulic spills:** Unintentional releases of hydraulic fluid. Hydraulic spills can occur when, during drilling operations, hydraulic fluid leaks from equipment seals or through ruptured hoses.

**Investigation-derived waste (IDW):** Consists of materials that are generated from CERCLA investigations, such as drill cuttings, purge and development water, soils, and wastes (debris, sludge, etc.).

**Infectious waste:** Waste containing living organisms that could endanger human health or the health of domestic animals or wildlife by extending the range of biological pests, viruses, pathogenic micro-organisms, or other agents capable of infesting, infecting, or extensively and permanently altering the normal populations of organisms. Although infectious waste has not yet been identified by a generator at this time, the potential exists for it to be generated in the future.

**Low-level waste:** Radioactive waste that cannot be defined as high-level waste, spent nuclear fuel, transuranic waste, byproduct material [as defined in Section 11e.(2) of the Atomic Energy Act of 1954, as amended], or naturally occurring radioactive material (DOE Order 435.1).

**Miscellaneous waste:** Non-recyclable unwanted material, such as trash, labels, rags, and other debris.

**Mixed waste:** Waste containing both radioactive and dangerous or hazardous components, as defined by the Atomic Energy Act of 1954 (as amended).

**Orphan waste:** Waste that has transuranic (TRU) constituents greater than 10 nCi/g, but less than 100 nCi/g. This waste designation is specific to the INEEL site only and has no regulatory requirement.

**Personal protective equipment:** May include coveralls, shoe covers, boots, gloves, glove liners, hoods, and duct tape. Coveralls and hoods are generally made of paper or Tyvek. Gloves are generally latex or nitrile, and glove liners are made of disposable cloth material. Shoe covers and boots are generally rubber.

**Purge and development water:** Purge and development water is the water generated from well development that is removed from a well before samples are collected.

**Radioactive waste:** Solid, liquid, or gaseous material that contains radionuclides regulated under the Atomic Energy Act of 1954, as amended, which is of negligible economic value considering costs of recovery.

**Sample containers:** Containers composed of steel, aluminum, Teflon, brass, or plastic used to contain samples of water, soil, or other media. Once used, these containers become a waste stream if they cannot be decontaminated for reuse.

**Secondary waste:** A generic category of wastes that is generated from support activities (including operations and maintenance activities) related to retrieving, processing, and packaging the investigation-derived materials. Examples of secondary wastes include waste associated with routine decontamination activities (excluding facility closure), PPE, administrative area and support services wastes, used equipment and filters, and other similar wastes generated during operation and maintenance activities. This type of waste may also be associated with remedial wastes and construction wastes.

**Solidification:** A technique that limits the solubility and mobility of hazardous waste constituents through physical means. This process changes the physical state from liquid or semi-solid to solid.

**Soil waste:** This includes soils that may be excavated as part of a project. Soil may be contaminated from the result of spill and pipeline leaks or radioactive liquids from plant liquid transfer operations.

**Spent nuclear fuel:** Fuel that has been withdrawn from a nuclear reactor following irradiation, which has not yet been reprocessed to remove its constituent elements.

**Stabilization:** A technique that limits the solubility and mobility of hazardous waste constituents by causing the constituents to bond or chemically react with the stabilizing material.

**Structural stability:** A structurally stable waste form will generally maintain its physical dimensions and its form under the expected disposal conditions, such as weight of overburden and compaction equipment, the presence of moisture and microbial activity, and internal factors such as radiation effects and chemical changes. Structural stability can be provided by the waste form itself, by processing the waste to a stable form, or by placing the waste in a disposal container or structure that provides stability after disposal.

**Toxic Substances Control Act (TSCA) waste:** Waste that is managed strictly under TSCA regulations. Presently, only polychlorinated biphenyls (PCBs) and asbestos are regulated under TSCA as waste.

**Transuranic waste (TRU):** Per DOE Order 435.1, TRU waste is radioactive waste containing more than 100 nanocuries (3700 becquerels) of alpha-emitting transuranic isotopes per gram of waste, with half-lives greater than 20 years, except for (1) high-level radioactive waste; (2) waste that the Secretary of Energy has determined, with the concurrence of the administrator of the EPA, does not need the degree of isolation required by the 40 CFR 191 disposal regulations; or (3) waste that the Nuclear Regulatory Commission has approved for disposal on a case-by-case basis in accordance with 10 CFR 61. (Source: WIPP Land Withdrawal Act of 1992, as amended.)

**Unused and unaltered sample material:** Unused and unaltered sample material may include excess soil cores from the interbeds, underlying basalt, and groundwater.





# **Waste Management Plan for the Staging and Storage Annex**

## **1. PURPOSE AND OBJECTIVE**

This Waste Management Plan (WMP) describes the management of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) wastes, including investigation-derived waste (IDW) and remedial and removal waste, to be moved to the Staging and Storage Annex (SSA), CPP-1789, from various Idaho National Engineering and Environmental Laboratory (INEEL) sites. This plan is solely written to manage accumulated CERCLA-generated wastes at the temporary storage area of the SSA, in accordance with the applicable or relevant and appropriate requirement (ARAR) in 40 CFR 262.34(a)(1). The SSA is located at the Idaho Nuclear Technology and Engineering Center (INTEC) and is the temporary storage site for all CERCLA wastes generated from the present until such time as the Staging, Storage, Sizing, and Treatment Facility (SSSTF) and the INEEL CERCLA Disposal Facility (ICDF) are in operation. The ICDF Complex will include the ICDF landfill, the SSSTF, the evaporation pond, and the SSA, which will be incorporated into the SSSTF. Figure 1-1 presents the relationship of the SSA to the other facilities within and outside the ICDF Complex.

This WMP identifies the types of waste accepted at the SSA, the Waste Acceptance Criteria, the tracking of waste using the Integrated Waste Tracking System (IWTS), the calculation of the curie content for the hazard classification, and, where possible, the volume of wastes anticipated to be generated during CERCLA activities and moved to the SSA. This plan identifies waste streams, describes waste minimization actions, and provides for proper waste management while the waste is located at the SSA. Figure 1-2, which provides the logic flow diagram for the SSA from the generation of waste at a CERCLA site to temporary storage at the SSA, is the process flow diagram which also provides the operating method number.

It is the intent of the Operable Unit (OU) 3-13 team to accept waste from all entities into the SSA. The operations supervisor (OS) will work with the waste area group (WAG) managers, providing guidance on the appropriate activities required for waste to be accepted into the SSA.

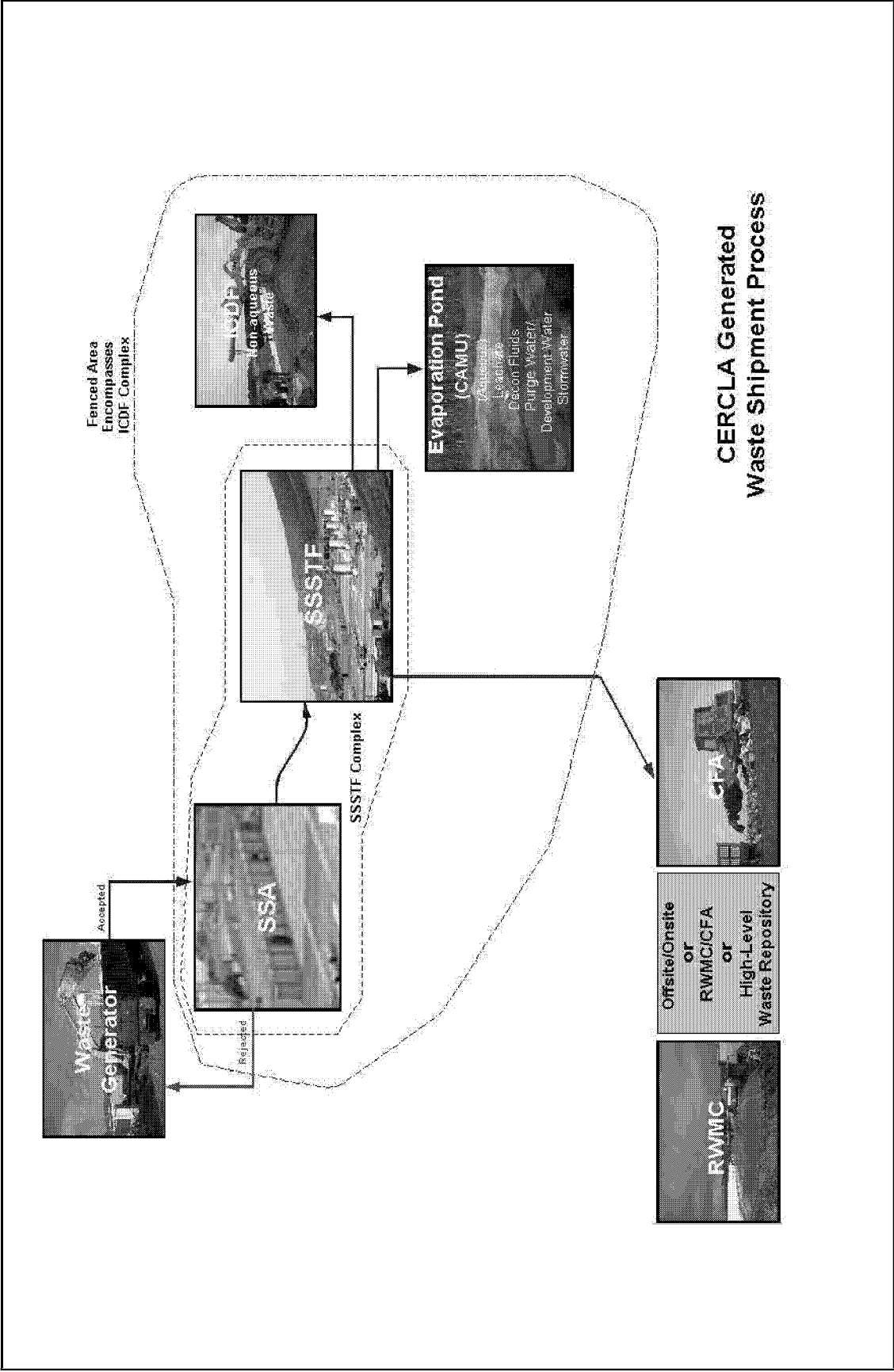


Figure 1-1. Shipment process for the SSA.

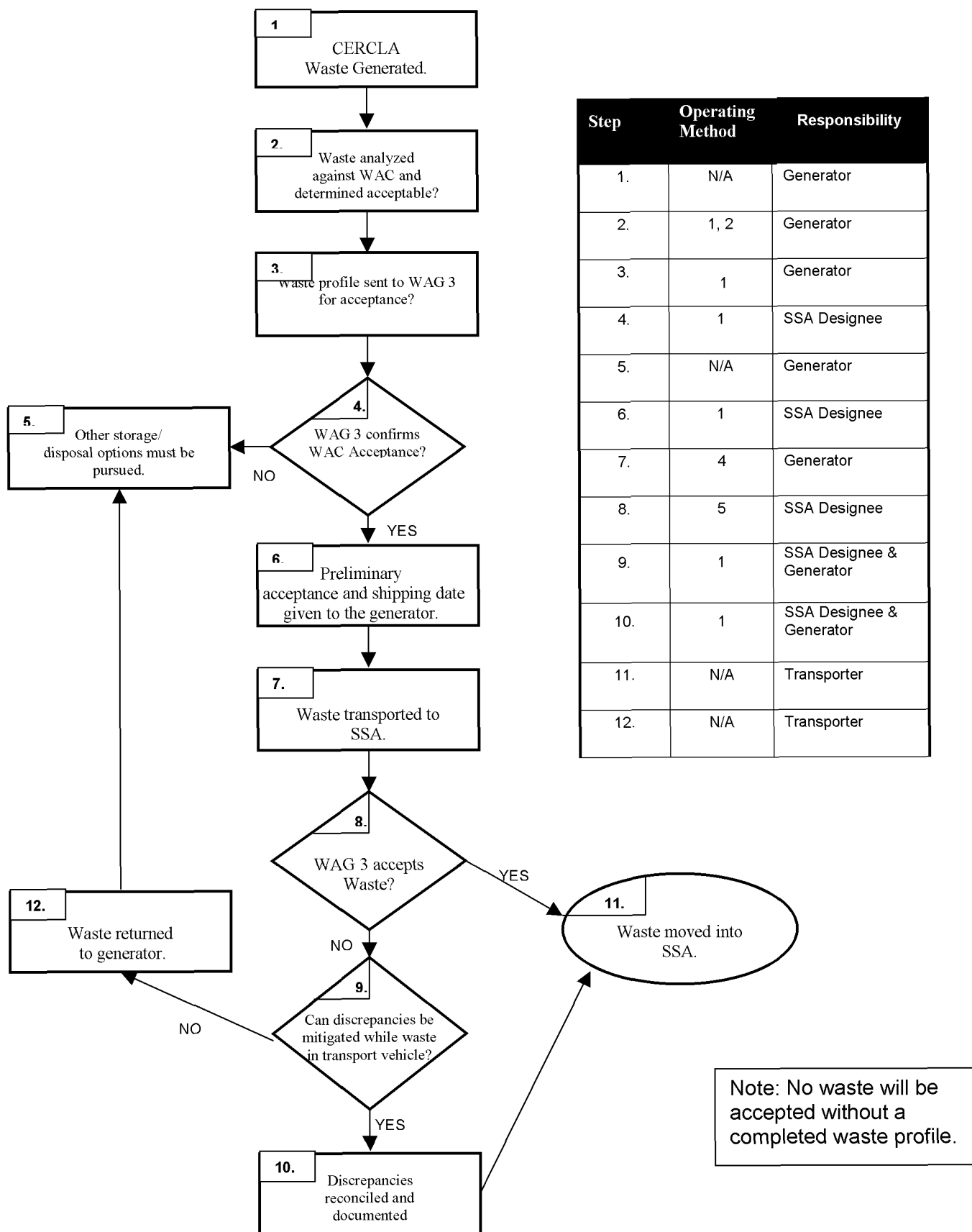


Figure 1-2. Logic flow diagram for the SSA.

## **2. SITE BACKGROUND AND FACILITY DESCRIPTION**

The INEEL is a Department of Energy (DOE) government facility located 51.5 km (32 mi) west of Idaho Falls, Idaho, that occupies 2,305 km<sup>2</sup> (890 mi<sup>2</sup>) of the northeastern portion of the Eastern Snake River Plain. The Idaho Nuclear Technology and Engineering Center (INTEC) is located in the south-central portion of the INEEL, as shown in Figure 2-1.

The INTEC, designated as OU 3-13, began operation in 1952, with the primary missions of reprocessing uranium for defense purposes and researching and storing spent nuclear fuel (SNF). Irradiated defense nuclear fuels were reprocessed to recover unused uranium, but, in 1992, the reprocessing operations were phased out. Currently, the INTEC receives and temporarily stores SNF, radioactive wastes for future disposition, and CERCLA-generated wastes from other INEEL facilities.

The SSA is a temporary area constructed to store INEEL CERCLA-generated wastes from within and outside the WAG 3 area of contamination (AOC). If more space is necessary to store CERCLA-generated waste, the current area of the SSA will be expanded by incorporating the gravel area south of CPP-1789. As shown in Figure 2-2, the SSA consists of a sloped asphalt concrete storage pad and an adjacent gravel area located on the southwest corner of the INTEC. The asphalt pad, per specifications, is constructed to withstand the weight of one forklift with a load. Liquid storage containers will be stored with adequate aisle space and secondary containment. A minimum aisle spacing of 30 in. will be maintained to allow for personnel and equipment access to respond to emergencies and/or conduct inspections. The SSA as-built drawings, design drawings, and specifications are found in Appendix A. Provisions will be made to ensure that incompatible materials are not stored together. All hazardous waste will have adequate secondary containment. Figure 2-3 presents a photograph of the sign that is erected at the SSA.

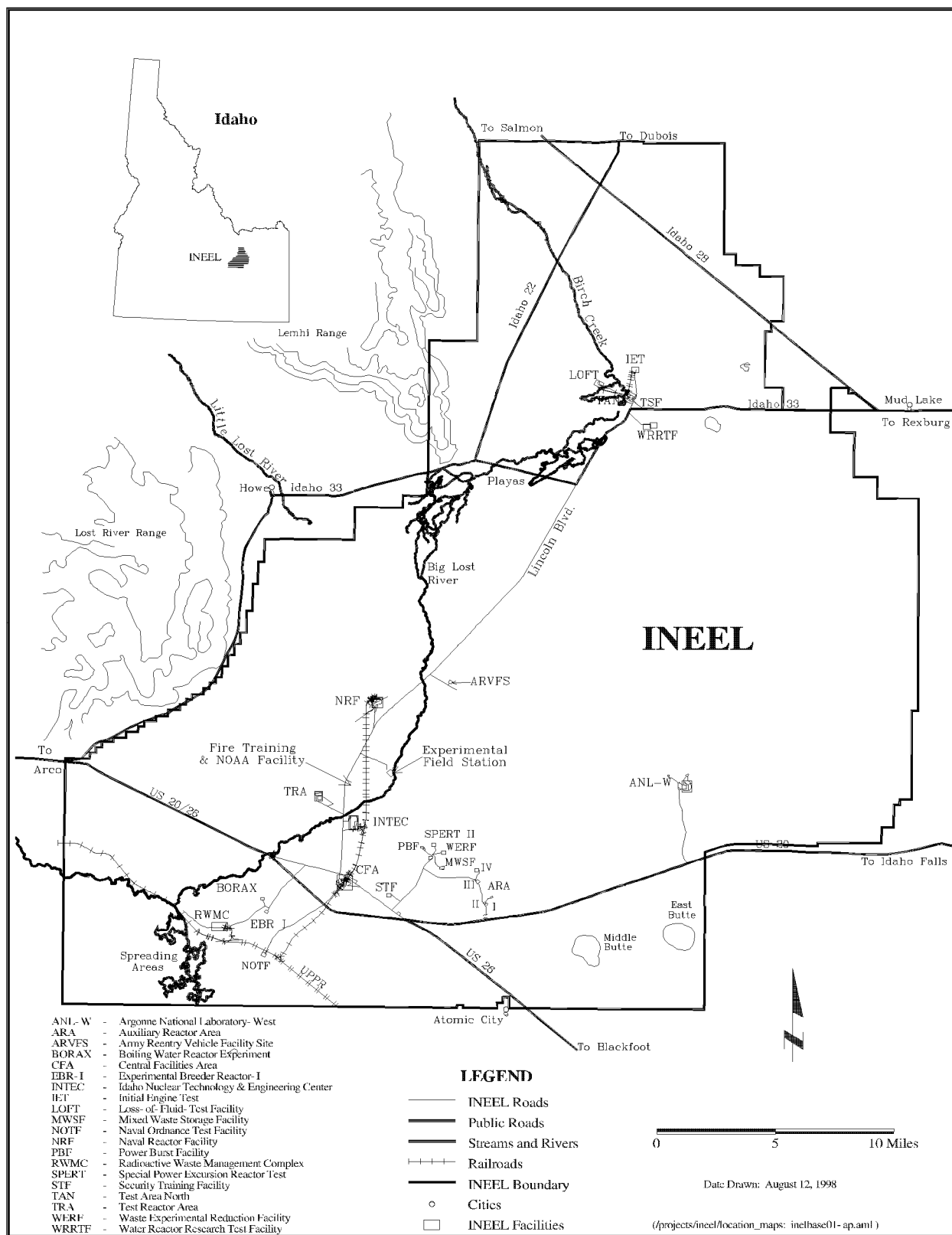


Figure 2-1. Location of the INTEC at the INEEL.

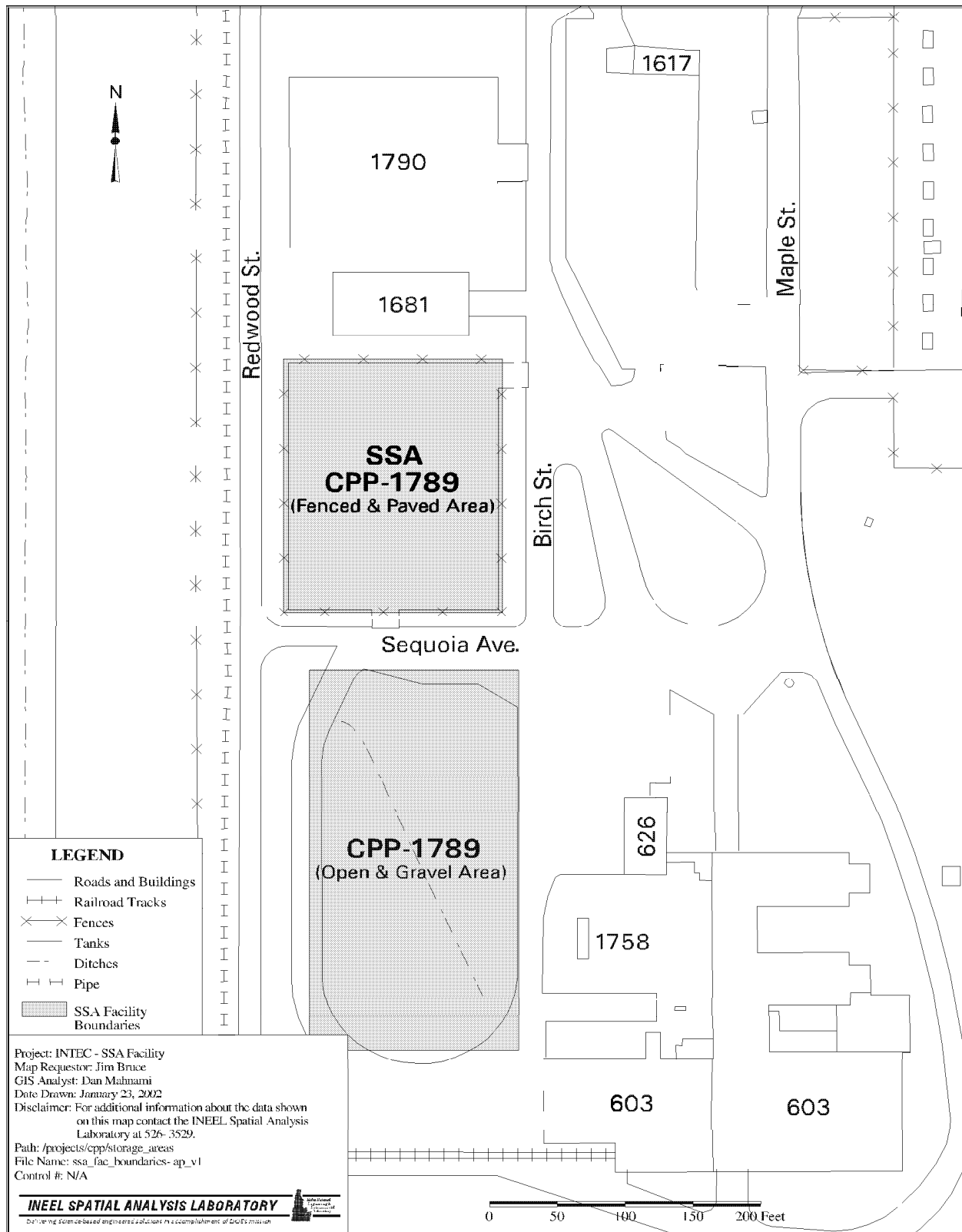


Figure 2-2. Location of the SSA at the INTEC.



Figure 2-3. The SSA signage.

### 3. WASTE GENERATION

The following sections discuss the types and volumes of waste anticipated to be stored at the SSA until the ICDF Complex is in operation.

#### 3.1 Remediation Sites Storing Waste at the SSA

The storage facility is intended for the storage of only CERCLA waste generated from both inside and outside the WAG 3 AOC, pending the acceptance of CERCLA waste to the ICDF Complex or other appropriate facility.

#### 3.2 Waste Identification

The CERCLA wastes anticipated to be generated from both inside and outside the WAG 3 AOC are summarized in Table 3-1. This table provides a description of the various waste streams and indicates whether the waste is accepted for SSA storage.

Table 3-1. CERCLA waste expected to be stored at the SSA.

Waste Types	Generated Within the WAG 3 AOC	Generated Outside the WAG 3 AOC	Location and Projected Volume (if available) <sup>a</sup>
Soil	X	X	WAG 3: 825 boxes inside AOC: TBD <sup>b</sup>
Debris	X	X	TBD
Personal protective equipment (PPE)	X	X	WAG 3: 100 yd <sup>3</sup>
Unused and unaltered sample material	X	X	TBD
Analytical residue and sample preservative residue	X	X	TBD
Sample containers	X	X	TBD
Hydraulic spills	X	X	TBD
Purge/development water	X	— <sup>c</sup>	TBD
Drill cuttings	X	—	TBD
Contaminated equipment	X	X	TBD
Miscellaneous waste (trash, labels, rags, etc.)	X	X	TBD
CERCLA-derived remediation	X	X	TBD
Removal waste	X	X	TBD
IDW	X	X	TBD
Secondary waste	X	X	TBD
Construction waste	X	X	TBD



Table 3-1. (continued).

Waste Types	Generated Within the WAG 3 AOC	Generated Outside the WAG 3 AOC	Location and Projected Volume (if available) <sup>a</sup>
IDW-soil (OU 3-13 ROD)	X	—	60 yd <sup>3</sup>
Other liquids from Groups 4 and 5	X	—	TBD
<u>Other solids from Groups 4 and 5</u>	X	—	TBD
a. Does not include OU 3-14.			
b. TBD – To be determined at the time of remediation.			
c. — = Not expected to be generated.			

Each of the waste streams listed in Table 3-1 is further defined in the Nomenclature section found in the beginning of this document.

The types of regulatory restrictions that apply to the waste types are listed in Table 4-3. Other waste streams may be accepted on a case-by-case basis.

## **4. WASTE ACCEPTANCE CRITERIA FOR THE SSA**

The SSA will receive only CERCLA-generated waste, and a generator must understand the basic Waste Acceptance Criteria (WAC) to ensure proper management of the waste. The following sections provide information to help generators determine whether the wastes are acceptable for storage at the SSA, before the generator completes the waste profile.

All wastes received at the SSA must be properly packaged and properly characterized by either laboratory analysis or process knowledge by the generator prior to acceptance. Waste that does not meet the SSA WAC may be accepted on a case-by-case basis, requiring proper authorization and approval.

The following sections address the primary elements of the SSA acceptance requirements, which were developed to ensure that waste received at the facility can be safely managed. The elements are as follows:

- Criteria Basis
- General Requirements
- Waste Content or Concentration Accepted at the SSA
- Waste Form and Container Requirements
- Exceptions to WAC Requirements (Case-by-Case Acceptance)
- Prohibitions
- Nonconforming Waste.

### **4.1 Criteria Basis**

The basis for acceptance criteria includes protection of human health and the environment, compliance with the requirements of the ICDF, control of waste form, and compliance with environmental regulations as authorized by the OU 3-13 Record of Decision (DOE-ID 1999a) ARARs shown in Appendix B. Each of these bases is described below.

#### **4.1.1 Protection of Human Health and the Environment**

The use of institutional controls and operational procedures will ensure that the SSA is protective of human health and the environment. Waste handling at the SSA will be consistent with maintaining worker exposure as low as reasonably achievable (ALARA), as per DOE Order 5400.5. Worker protection will be provided by compliance with the requirements of the INEEL health and safety requirements. Personnel monitoring and a radiological work permit (RWP) are required of workers entering any radiological area. Further monitoring is not required.

#### **4.1.2 Compliance with the ICDF**

This Waste Management Plan focuses on the requirements associated with the SSA, but the WAC requirements for the SSA must also remain consistent with the WAC requirements of the other ICDF Complex facilities to ensure protection of human health and the environment and to reduce costs associated with potential duplication of analysis.

### **4.1.3 Waste-Form Control**

The physical form of the waste shall be controlled to minimize void space and to facilitate loading, transportation, and unloading of waste. It is recommended that generators reduce void spaces in containers as much as possible. The SSA WAC prescribes additional packaging information on the waste form. In order to meet the SSA requirements, generators must meet the packaging requirements in Section 6.2.4 of this report.

### **4.1.4 Compliance with Environmental Regulations**

Waste stored at the SSA must meet the ARARs listed in Appendix B. To ensure compliance with the appropriate environmental regulations, the WAG 3 OS must accept the generator's waste profile before the waste is shipped.

## **4.2 General Requirements**

### **4.2.1 Characterization**

The formal characterization/designation process for radioactive and/or RCRA-regulated wastes will be implemented. Waste streams will be identified and designated, and the land disposal restriction (LDR) status determined during the planning stages of the project and designated prior to shipment. (LDRs are described in Section 4.3.2.5.) Prior to unanalyzed waste being shipped to the SSA, a waste profile will be completed utilizing process knowledge. If waste from within the WAG 3 AOC, without analytical information, appears to meet the WAC, it may be accepted for staging and storage. Further analysis while such waste is at the SSA may be required. With the exception of waste designated as "pending analysis," all waste entering the SSA will undergo, at a minimum, a hazardous waste determination for total metals (except as noted in Table 4-1) and a radiological analysis that includes both activity and speciation. If the total metals are greater than  $20 \times$  the LDR, a verification toxicity characteristic leaching procedure (TCLP) may be required.

### **4.2.2 Use of Process Knowledge for Waste Designation**

When a waste designation is based solely on process knowledge, the generator must ensure that the chemical, physical, and radiological properties of the waste are adequately determined. The designation must be accomplished with sufficient accuracy to ensure that subsequent treatment, storage, or disposal of the waste protects human health and the environment.

Using process knowledge, the generator of a solid waste may declare the waste hazardous in lieu of testing. Declaration of a solid waste as *hazardous* subjects the waste to associated treatment, storage, and/or disposal requirements, per 40 CFR 264. The organization responsible for the management of a declared hazardous waste may use acceptable knowledge, such as analytical results, to reverse the declaration as long as impermissible dilution has not occurred. When a waste is declared hazardous based on process knowledge, designation records shall so indicate to document the quality of knowledge used to complete the waste designation.

## **4.3 Waste Content or Concentration Accepted at the SSA**

Waste generated from CERCLA activities conducted under the Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991), such as IDW and remedial wastes, will be accepted at the SSA. In addition, CERCLA waste generated from removal actions is also CERCLA waste and is a candidate for acceptance into the SSA.

Table 4-1 below summarizes the types of waste that are accepted at the SSA. As shown in Figure 1-2, the generator must complete a waste profile for generated waste listed in Table 4-1 and obtain WAG 3 OS approval before shipping the waste to the SSA.

Table 4-1. Summary of SSA Waste Acceptance Criteria.

Waste Type Accepted at the SSA	Concentration/Content Accepted
Nonhazardous/nonradioactive waste (i.e., industrial waste)	Waste must be certified as containing no hazardous or radioactive component. Additionally, generator must justify to WAG 3 OS as to why waste is not accepted at the INEEL landfill.
Hazardous waste	If metals total concentrations exceed the LDRs by the application of the $20 \times$ rule, then TCLP analysis may be necessary for storage at the SSA area. This determination will be made on a case-by-case basis. Additionally, organic wastes will not be accepted if they are at $100 \times$ the Phase IV LDRs.
Radioactive waste	Both a radiation count and speciation are required. Radionuclide content of waste against the various limits listed is provided in Appendix C.
Mixed waste	Must meet both the hazardous and radioactive WAC.
Purge and development water	Liquid waste may be accepted on a case-by-case basis for storage, pending operation of the SSSTF and evaporation pond. All WAG 3 liquid waste will be accepted.
Asbestos and PCB ( $\leq 500$ ppm)-TSCA waste (including radioactively contaminated asbestos and PCB waste)	These wastes will be accepted into the SSA.
Orphan waste	Orphan waste will be accepted for storage until final disposal is determined.
TRU waste (from within WAG 3 AOC)	TRU waste will only be accepted from WAG 3 AOC. TRU waste will be stored at the SSA until accepted for final disposition. Without regard to source or form, waste that is contaminated with alpha-emitting, TRU radionuclides with half-lives greater than 20 years and concentrations greater than 100 nCi/g at the time of assay are considered TRU waste. Heads of DOE Operations Offices (e.g., DOE-ID) may determine if other alpha-contaminated waste, peculiar to a specific site, must be managed as TRU waste (DOE Order 435.1).
Drill cuttings	Drill cuttings will be accepted at the SSA.

Each of the wastes listed on Table 4-1 is further described in a subsequent section. Table 4-2 summarizes the types of regulated wastes that may be candidates for SSA storage.

Table 4-2. Regulated waste accepted at the SSA.

Waste Type	Liquid	Solid	Case-by-Case
Ignitable	— <sup>a</sup>	—	X
Corrosive	—	—	X
Reactive	—	—	X
TCLP/toxic metals	X	X	—
Volatile organics	X	X	—
Semivolatile organics	X	X	—
Chlorinated solvents	—	—	X
P/U listed waste	—	—	X
Lab packs	X	X	X
Compressed gas	—	—	X
Pending analysis <sup>b</sup>	X	X	—
Asbestos	—	—	X
PCBs (<500 ppm)	X	X	—
Radioactive	X	X	—
Transuranic (WAG 3 AOC only)	—	—	X
Mixed waste	X	X	—

a. — = Not applicable.

b. This pertains to waste within WAG 3 AOC only. Prior to unanalyzed waste being shipped to the SSA, a waste profile will be completed utilizing process knowledge. If waste without analytical information appears to meet the WAC, it may be accepted for staging and storage if the waste is from within the WAG 3 AOC, but further analysis while such waste is at the SSA may be required.

#### 4.3.1 Nonhazardous/Nonradioactive Solid Waste

Nonhazardous/nonradioactive solid waste is defined as articles, materials, and substances that are no longer of practical use, have no commercial value, and do not meet the definition of hazardous waste or radioactive waste. Primary examples of nonhazardous/nonradioactive waste are office waste and inert demolition waste [40 CFR 261.2(a)(1) and (2) and IDAPA 58.01.05.005]. Preferably, solid waste will be transferred to the INEEL Landfill Complex rather than be accepted at the SSA. However, in the event that the INEEL landfill cannot accept the solid waste, the SSA will then consider accepting it.

#### 4.3.2 Hazardous Waste

Hazardous waste is defined in 40 CFR 261 Subparts C and D of the Resource Conservation and Recovery Act (RCRA). The SSA can accept D-code characteristic waste, F-listed wastes, and most P-code and U-code wastes. Waste characterization will be based on total concentrations. If total concentrations exceed the LDR by the application of the 20 × rule, then TCLP analysis may be necessary to determine if the waste is RCRA characteristic. This determination will be made at the discretion of the WAG 3 OS.

Table 4-2 outlines the specific wastes that may be candidates for SSA storage. The types of hazardous wastes accepted at the SSA are further defined in the following subsections:

- Commercial chemical product wastes
- Nonspecific source waste
- Characteristic waste
- Listed waste
- Other hazardous waste.

**4.3.2.1 Commercial Chemical Product Wastes.** Commercial chemical products are also called the P- and U-listed waste. These lists consist of specific commercial chemical products or manufacturing chemical intermediates and include chemicals such as chloroform and creosote, acids such as sulfuric acid and hydrochloric acid, and pesticides such as DDT.

**4.3.2.2 Nonspecific Source Waste.** Nonspecific source waste is generic waste, commonly produced by manufacturing and industrial processes. The waste is called F-listed because its hazardous waste codes begin with “F”. Examples from this list include spent halogenated solvents used for degreasing, wastewater treatment sludge from electroplating processes, and dioxin waste.

**4.3.2.3 Characteristic Waste.** Characteristic waste is designated by a waste code and exhibits one or more of the following characteristics:

- Ignitability is the first of the four hazardous waste characteristics. The waste code for ignitability is D001 (40 CFR 261.21).
- Corrosivity is the second hazardous waste characteristic. The waste code for corrosivity is D002 (40 CFR 261.22).
- Reactivity is the third hazardous waste characteristic. The waste code for reactivity is D003 (40 CFR 261.23).
- Toxicity is the fourth hazardous waste characteristic. The toxicity waste codes are D004 through D043 and consist of heavy metals and organic wastes. The determination of the waste codes is based on the concentration of contaminants that may leach from the waste. Those concentrations are determined either through use of the TCLP, which is found in Appendix II of 40 CFR 261, or through process knowledge. The waste codes and their corresponding threshold limits are listed in 40 CFR 261.24.
- Waste that has been characterized as ignitable, corrosive, or reactive will be reviewed on a case-by-case basis by the WAG 3 OS for acceptance into the SSA.

During environmental restoration operations, certain activities may result in the use or handling of lead, which can be designated as either waste or a recyclable material. The generator should exercise the option to recycle prior to shipping lead for disposal. When lead is identified as waste, it must be handled in compliance with applicable regulatory requirements.

**4.3.2.4 Listed Waste.** The listed waste review generally will rely on readily available documents gathered as a part of the standard CERCLA site evaluation, such as analytical methods and process knowledge. The identified F-listed waste codes for waste with the potential to be temporarily stored at the SSA are listed in 40 CFR 261.31. In the event that listed waste sources are suspected, the scope of the review will be augmented to target specific operating procedures. For CERCLA units where listed waste sources are reasonably expected, standard operator interviews using questions specifically intended to identify potential sources should be conducted and documented as necessary, with the resulting information submitted with the waste profile.

Although operator interviews will not be used as the sole basis for an affirmative listed waste determination and additional confirmatory documentation or physical evidence is required, operator interviews may indicate the potential presence of a listed waste source. This may indicate the need for more detailed review of contemporary documentation to confirm the presence or absence of the suspected source. Reviews will include evaluations of process knowledge, with respect to the following:

- Listed waste may be designated based on process knowledge and/or analytical data.
- Listed wastes are source-dependent—the mere existence of a particular constituent in a waste stream does not cause a waste to be a listed waste nor does the lack of a detectable constituent prevent a waste from being listed. Knowledge regarding the constituent's source shall be used to establish a listed waste designation.
- If no analytical data or source knowledge exists, the waste need not be designated as a listed waste.

**4.3.2.5 Land Disposal Restriction (LDR) Requirements.** Wastes from outside the WAG 3 AOC must meet the requirements of 40 CFR 268, as applicable.

The applicability and institutions of LDRs for liquid waste for evaporation ponds include the following:

- Evaporation Pond Corrective Action Management Unit (CAMU) (ROD)
- LDR not applicable [40 CFR 264.552(a)(1)].

**4.3.2.6 Other Hazardous Waste.** Other hazardous wastes that may be accepted on a case-by-case basis at the SSA include the following:

- Organic liquids and chelating compounds—Unstabilized organic liquids (including sorbed organic liquids) exceeding 1% of the waste by weight and unstabilized chelating compounds exceeding 1% of the waste by weight. Organic compounds exceeding  $100 \times$  the LDR will not be accepted.
- Lab packs—Only lab packs that contain CERCLA-generated waste will be accepted at the SSA. Lab packs are drums containing several smaller containers of compatible waste chemicals. Lab packs will be packaged so that there are no incompatible materials in each container. The container must be filled with absorbent of sufficient volume to absorb twice the volume of liquid in the container, making it safe for transport. Contents of a lab pack are documented in the container profile.
- Debris—Debris is contaminated solid waste that is greater than 2.5 in. in diameter or particle size, as per 40 CFR 268.2(g). Examples include lumber, concrete, and PPE. Contaminated soils and sludges are NOT classified as debris.
- Other liquids, sludges, and solids—These are generally accepted unless specifically restricted above.

### 4.3.3 Radioactive Waste Acceptance Criteria

Radioactive wastes are materials contaminated with unwanted radioactive materials regulated by DOE Order 435.1. The SSA is able to receive radioactive wastes for storage, including, but not limited to, miscellaneous trash, respirator cartridges, gloves, glassware, protective clothing, wood or construction materials, or paper/plastic. This also includes liquids, liquids mixed with solids, sludges, soils, debris, or any combination of these.

The radioactive WAC provides the information necessary to receive, store, hold for decay, process, and dispose of radioactive waste in full compliance with state and federal regulations. The generator must have a waste profile completed to assure no delays in the review. The types and amounts of radioactive materials that qualify for acceptance at the SSA are summarized below.

- Radiological concentration limits. The methodology for classification of the radionuclide content of waste is provided in EDF-ER-294 and Appendix C. The radiological concentration limits are tracked by the IWTS.
- TRU waste. TRU waste exceeds 100 nanocuries per gram of TRU constituents, per DOE Order 435.1. The net weight of the waste (excluding the weight of the container and shielding) must be used to calculate the specific activity of the waste in each container. Only TRU waste generated inside of the WAG 3 AOC will be accepted for storage at the SSA, and only until the waste can be sent to an appropriate facility that manages TRU wastes. TRU waste generated outside of the WAG 3 AOC will not be accepted for storage at the SSA.
- Mobile radionuclides. If the concentration of any mobile radionuclide exceeds the Mobile Radionuclide Reporting Limit listed in Appendix C, Table C-2, stabilization may be required prior to disposal. This stabilization may be accomplished at the SSSTF or other treatment facilities as the capacity becomes available. Following stabilization, disposal may occur on-Site at the ICDF or at an off-Site disposal facility in compliance with the applicable WAC.
- Sealed sources. Sealed sources are encapsulated or hermetically sealed by a manufacturer for the purpose of maintaining the integrity of the source and preventing contamination. Typically, sealed sources are radioactive sources generally used for calibration or equipment checks, gauging devices, or similar uses. Authorization for the receipt of sealed sources will be on a case-by-case basis.
- Uncharacterized IDW and CERCLA remediation waste. This waste is normally generated during INEEL CERCLA field investigations awaiting analysis or other pending documentation requirements. It may include indigenous wastes (i.e., drill cuttings, purge and development water, soils, sludges, and unaltered samples) and nonindigenous waste (e.g., contaminated personal protective equipment, samples altered during analysis, and other waste materials generated from collecting and analyzing samples or drilling and installing wells, borings, and test pits). The generator is responsible for ensuring that the waste is properly characterized and for creating and completing a waste profile before the waste can enter the SSA, as applicable.

### 4.3.4 Mixed Waste

Mixed wastes contain both a hazardous waste component, regulated under RCRA, and a radioactive waste component, regulated under the Atomic Energy Act (AEA). The SSA will accept waste that meets both the hazardous and radioactive criteria but will not accept PCB-TSCA-regulated waste containing  $\geq 500$  ppm PCBs.



#### **4.3.5 Purge and Development Water**

Purge and development water is groundwater withdrawn from wells for

- Developing newly constructed groundwater monitoring wells
- Purging existing wells prior to sample collection
- Testing aquifers
- Periodic cleaning and renovating of existing groundwater monitoring wells.

The SSA will accept purge and development water for storage.

#### **4.3.6 Drill Cuttings**

Drill cuttings must comply with the WAC outlined for hazardous, radioactive, or mixed waste requirements defined above to be accepted at SSA.

#### **4.3.7 Toxic Substances Control Act (TSCA) Waste**

Asbestos and PCB ( $\leq 500$  ppm) waste will be accepted at the SSA.

### **4.4 Waste Form and Container Requirements**

At this time, all identified and/or specified waste forms can be accepted at the SSA as long as they are packaged and contained appropriately for the waste form and type that are generated. Waste generators must meet the packaging and containerization requirements described in Section 6. Technology, design, and existing INEEL waste management capabilities will be used to minimize the use of nonstandard waste packages, which will be approved on a case-by-case basis. Requests for nonstandard packing and material shall, as a minimum, address the following:

- Description and justification of nonstandard features
- Nonstandard packaging design, as applicable
- Compatibility analysis for chemical characteristics and packaging for nonstandard material forms
- Container operating procedure, as applicable
- Special handling equipment or requirements
- Rigging design and proof of load test, as applicable
- Transportation system, as applicable
- Transport plan, as applicable.

Specific packaging of hazardous materials shall comply with the hazardous materials table in 49 CFR 172.101. Details on packaging requirements and container requirements for each waste type are outlined in Section 6.

## 4.5 Exceptions to WAC Requirements (Case-by-Case Acceptance)

The waste types listed on Table 4-3 will be considered for acceptance on a case-by-case basis.

Table 4-3. Summary of items to be reviewed on a case-by-case basis.

Waste Type	Description
Gaseous waste	Gaseous waste packaged at pressures exceeding 1.5 atmospheres (152 kilopascals absolute pressure) at 20°C (68° F). Ignitable Waste (D001) Corrosive Waste (D002)
Unstabilized organic liquids >1% of waste/weight	Includes sorbed organic unstabilized chelating compounds >1% of waste/weight.
Waste capable of detonation or explosive reaction	Waste capable of detonation or explosive reaction if subjected to a strong initiating source. Waste that is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure. Waste that is a forbidden explosive as defined in 49 CFR 173.54, or a Class 1 explosive, Division 1.1, Division 1.2, Division 1.3, and Division 1.5, as defined in 49 CFR 173.50.
Waste that generates toxic gases, vapors, or fumes	Waste that might generate toxic gases, vapors, or fumes in concentrations that reasonably could be expected to exceed occupational exposure limits and/or air emission standards before disposal (DOE Order 435.1).
Infectious/biological waste	Waste containing living organisms that could endanger human health or the health of domestic animals or wildlife by extending the range of biological pests, viruses, pathogenic micro-organisms, or other agents capable of infesting, infecting, or extensively and permanently altering the normal populations of organisms. <sup>a</sup>
Used oil	If used oil is deemed nonrecyclable, it may be accepted at the SSA for disposal. Used oil is regulated under 40 CFR 279 and is any petroleum-based oil that has become contaminated or rendered unusable. This also includes used oil filters, which are oil filtration devices that have become contaminated by use.
Heat generation waste	If heat generation from radiological decay in the waste package exceeds 3.5 W/m <sup>3</sup> (0.1 W/ft <sup>3</sup> ), the package must be evaluated to ensure that the heat does not affect the integrity of the container or surrounding containers in the SSA. This evaluation of waste and the container must be approved by the SSA site OS.
Uncharacterized IDW and CERCLA remediation/removal waste	This waste is normally generated during INEEL CERCLA field investigations awaiting analysis or other pending documentation requirements. It may include indigenous wastes (i.e., drill cuttings, purge and development water, soils, sludges, and unaltered samples) and nonindigenous waste (e.g., contaminated PPE, samples altered during analysis, and other waste materials generated from collecting and analyzing samples or drilling and installing wells, borings, and test pits). The WAG 3 OS must be contacted to determine acceptability prior to shipment to the SSA.

a. These wastes are not anticipated to be generated at a CERCLA site but will be considered for acceptance if generated.

## 4.6 Prohibitions

The waste types not accepted at the SSA are listed in Table 4-4.

Table 4-4. Summary of wastes not accepted at the SSA.

Waste Type	Comment
PCB - TSCA waste	Waste containing $\geq 500$ ppm PCBs regulated by TSCA as defined by 40 CFR 761.60.
High-level waste	Highly radioactive waste material, including the liquid waste, resulting from the reprocessing of spent nuclear fuel.
TRU waste (outside of the WAG 3 AOC)	TRU waste that was generated outside of WAG 3 AOC.
Recyclable materials	Material that can be used or reused for another purpose, or reclaimed for use as deemed acceptable by the INEEL Waste Minimization organization, should not be brought to the SSA for disposal.

## 4.7 Nonconforming Waste

If the logic flow diagram, as identified in Figure 1-2, indicates that waste is unacceptable or inappropriate material for the SSA or is material significantly different than profiled for SSA storage, the WAG 3 OS will contact the generator to determine further action.

## **5. WASTE PROFILE PROCESS**

### **5.1 General Requirements**

Both direct and indirect methods are used to characterize waste. Selection of the method depends on the parameters being measured, hazards associated with acquiring the information, and the amount and quality of data needed. When capable of yielding sufficient information, indirect methods are preferred for obtaining the characterization data, which is consistent with ALARA requirements. Acceptable knowledge can be effective when waste behavior is well known and highly controlled for a predictable product.

Examples of acceptable knowledge elements are

- Auditable records
- Description of correlation with other processes
- Identification of supporting documentation
- Documented procedures.

Process knowledge may be required to determine any necessary analyses. In cases where process knowledge is not conclusive, characterization may be performed. Based on this information, waste may have to undergo characterization, such as radiological and/or total metal analyses, to determine if the waste exceeds  $20 \times$  the LDR. If the results exceed  $20 \times$  the LDR, then a TCLP may be performed on each waste, unless process knowledge confirms that these activities are not needed.

### **5.2 Data Quality Objectives**

The data quality objectives (DQOs) process or a comparable process will be used to identify characterization parameters and acceptable uncertainty in characterization data. The intent is not to recharacterize using DQO-identified waste streams, but to ensure that new waste streams are identified and generated and/or that existing streams are significantly modified. DQOs can be used as supporting documentation from the waste generators when they are providing information to meet the WAC.

### **5.3 Waste Profile**

A waste profile, as shown in Appendix D, will be required for each waste entering the SSA. The generator of the waste will provide a completed waste profile prior to anticipated shipping.

The waste generator may include the following information in the waste profile:

- Documented quality assurance program
- Procedures used for sampling, packaging, transporting, laboratory analysis, and data control
- Documentation of procedure/process controls.

In addition, the generator will be required to provide the following information in the waste profile:

- Analytical results
- Radioactivity (concentration and speciation)
- Process knowledge
- Physical description
- Hazardous waste determination
- IWTS number
- Volume/quantity
- Container and packaging type
- Container identification and labeling.

Other information/analyses results that may be required include, but are not limited to, the following:

- Paint filter
- Reactivity
- pH/corrosivity
- Special analytical process required for a specific waste type
- Organic COCs for soils ( $20 \times \text{LDR}$ ).

The results of these tests will be included in the waste profile along with all other supporting documentation for the waste.

The waste generator will provide a copy of the analytical results in the waste profile. The waste receives final acceptance at the SSA when the WAG 3 OS signs off on the appropriate shipping document.

The WAG 3 OS can use the information contained in the IWTS and the waste profile to alert future disposal contractors of possible disposal restrictions. If the waste determination at the time of screening does not meet the profile, the SSA OS will either work with the generating WAG until an accurate determination can be made or arrange for further actions.

## **5.4 Waste Profile Reevaluation Process**

The WAG 3 OS will reevaluate a waste profile under the following conditions:

- The process generating the waste has changed.

- Inspection or analysis indicates that the waste received at the SSA does not match the waste identified in the waste profile or is not in compliance with this WMP.

When a waste profile is reevaluated, the generator may be requested to do one or more of the following:

- Verify that the current waste profile is accurate
- Supply a corrected, modified, or new waste profile
- Submit a sample for parameter analysis.

## **5.5 Waste Certification**

The certification program ensures generator responsibility and accountability of the waste being sent to the SSA for disposal. Waste certification is accomplished by the IWTS and is maintained electronically and in hard copy form. The following protocols pertain to the waste certification process:

- The waste profile is signed electronically, certifying that the waste meets appropriate requirements.
- Waste certification will be used again when the waste is transferred out of the SSA to a designated facility. The waste certification is part of the waste profile and is contained in the waste profile folder along with other information from the receiving organization.
- Waste shipped off-Site from the SSA will meet the applicable requirements of DOT, the receiving facility's WAC, and the Off-Site Rule (40 CFR 300.440)
- The SSA will designate a certification official who has the authority to release and sign the waste profile for waste leaving the SSA and verify the signature on the waste profile for waste incoming to the SSA.

The waste certification will be recorded and maintained in accordance with DOE-ID policy and applicable ARARs.

## **6. WASTE MANAGEMENT**

This section outlines the management processes and practices that will govern potential CERCLA-generated waste prior to shipment, during shipment, upon arrival, and upon acceptance to the SSA.

### **6.1 Waste Minimization and Segregation**

All wastes designated for temporary storage at the SSA will be segregated and/or treated to maximize conformance to waste disposal requirements. Considerations of feasibility, economic costs and benefits, safety, and secondary waste generation must be provided in the planning of CERCLA activities to balance the selection of waste management alternatives. Waste reduction philosophies and techniques will be emphasized as part of prejob briefings, and all personnel will be encouraged to continuously attempt to improve methods for minimizing waste generation. Practices to be instituted to support waste minimization include, but are not limited to, the following:

- Planning preshipment processes to reduce waste rejection by the WAG 3 OS
- Restricting materials (especially hazardous materials) entering radiological buffer areas to those needed for work performance
- Substituting disposable items with recyclable or incinerable items
- Reusing items when practical
- Using alternatives when possible (such as the INEEL Landfill Complex).

All waste storage activities will be planned and managed to promote waste segregation and to minimize waste cross-contamination. Interim storage at the SSA of all WAG-generated CERCLA waste promotes segregation of wastes by storing the wastes in separate storage units or segregation compartments. Waste generators will segregate wastes to ensure that incompatible wastes are containerized separately and that wastes meet the WAC.

### **6.2 Management of CERCLA Waste Prior to Storage at the SSA**

CERCLA remedial and removal wastes, along with IDW, will be temporarily managed and stored at the SSA, in compliance with this Waste Management Plan, until their final disposition through the SSSTF and on-Site at the ICDF, or at an off-Site disposal facility.

All waste received by the SSA must be identified with the following information:

- Waste profile (with analytical results, when possible)
- Proper container labeling
- Proper INEEL waste tracking label generated from the IWTS database.

All waste to be received at the SSA is considered to be on-Site and must be CERCLA-generated waste from within the INEEL boundaries, as this waste is being generated by one entity for the purpose of disposal by that entity. Waste acceptance requires 100% verification of the waste profile. Further

independent waste verification will not be required, although auditing of waste profile generation and generator sampling, analysis, and shipping procedures may be conducted. Any waste with an incomplete or suspect waste profile may be sampled for verification.

#### **6.2.1 Initial Contact**

The generating organization must first determine whether the waste satisfies the WAC, detailed in Section 4 of this document, before the waste has been generated and containerized. If the waste meets the WAC for storage at SSA, the generating organization must then ascertain that the SSA has the necessary storage capacity. In the event that the SSA does not have adequate storage capacity, the generating organization will become responsible for locating other suitable storage space until the waste can be either stored at the SSA or shipped to the ICDF for final disposition.

#### **6.2.2 Submission of Waste Profile**

When deciding whether a shipment of CERCLA waste could be stored at the SSA, the generating organization must provide an electronic copy of the waste profile for review. A detailed procedure is found in Operating Method 1 in Appendix E. As discussed in Section 5.0, any available analytical and/or process knowledge concerning the waste must accompany the waste profile, and all waste delivered to the SSA for storage must be accompanied by a waste profile. Waste arriving at the SSA, without prior approval from the SSA OS, will be rejected without exception, although rejected waste may be resubmitted for acceptance to the facility when appropriately documented.

When the SSA OS receives the waste profile, the OS will review the waste profile for accuracy. If the OS determines that the waste profile is accurate and complete with all supporting documentation, the OS will accept the waste into the SSA. If the OS does not accept the waste profile, the generator will remain responsible for the waste until all discrepancies are corrected.

#### **6.2.3 Delivery of Waste**

The waste generating organization is required to prearrange the delivery time and date of all waste shipped to the SSA. These arrangements can be made during the initial contact, if the waste has been accepted for receipt. A shipment sent without prior arrangement may be rejected.

All waste received at the SSA will be accompanied by either a hazardous waste manifest or a bill of lading.

#### **6.2.4 Packaging**

Packaging of CERCLA-generated waste shall be in compliance with the OU 3-13 ROD ARARs. Container specifications are listed in Table 6-1. It is recommended that generators reduce void spaces in containers as much as possible.

CERCLA-generated waste materials must be stored and transported in containers that are in good condition, are compatible with the waste, and meet the DOT specifications. The DOT regulations, which provide standards for properly packaging hazardous material and hazardous waste (49 CFR 172), must be followed to determine the proper containers for the management of each waste stream.

Packaging of all waste materials designated for SSA storage will be in compliance with DOT regulations and RCRA regulations found in 40 CFR 264, Subparts I and J. The WAG 3 OS should be consulted prior to the generation of any new waste to identify the specific types of containers required for the anticipated wastes.



Table 6-1. Acceptable containers by waste type.

Waste Type	55-Gallon Drum <sup>a</sup>	Roll-Off Containers <sup>a</sup>	Crosslinkable Polyethylene Tanks		INEEL Wood Boxes <sup>a</sup>
			VCT <sup>c</sup>	VOT <sup>c</sup>	2 x 4 x 8 ft 4 x 4 x 4 ft 4 x 4 x 8 ft
Hazardous	XX	XX	d	d	XX
RAD <sup>b</sup>	XX	XX	d	d	XX
RAD & mixed RAD <sup>b</sup>	XX	XX	d	d	XX
Asbestos-TSCA	XX	e	d	d	XX
Asbestos-TSCA/RAD waste <sup>b</sup>	XX	e	d	d	XX
Purge/development water	d	e	XX	XX	e
Case-by-case	d	d	d	d	d

a. Roll-offs and INEEL wood boxes will be lined with polyethylene liners (or supersacks). Roll-off containers will have covers. Drums will have polyethylene liners when required.

b. Low-level radioactive waste shall be packaged for disposal in accordance with 10 CFR 61.56(a). The container must also be surveyed to ensure occupational exposures to radiation are < 500 mR/h at 1 meter for the exterior of the container. If the container's radiation is >500 mR/h, the container must be shielded by other containers while within the SSA.

c. VCT (Vertical Closed Top) and VOT (Vertical Open Top) aboveground tanks will meet or exceed ASTM D 1998-97, Type I: Tanks molded from crosslinkable polyethylene.

d. Wastes accepted on a case-by-case basis could require special container requirements. Therefore, the generator must verify proper containers with the hazardous materials table in 49 CFR 172.101.

e. Not an acceptable waste type for this container.

NOTE: Other types of containers may be used if they have received approval prior to shipment.

**6.2.4.1 Container Compatibility.** Not all wastes are compatible with every type of container. Some acids will destroy metal drums, and some organic solvents will dissolve plastic containers. As no universal container can be used for transportation on the INEEL facility (40 CFR 300.5) or for storage of all hazardous materials, it is critical that compatible shipping containers be identified whenever a new waste stream is generated or when any changes are made to an existing waste stream. Before the accumulation of the waste begins, the DOT Hazardous Materials Table, found in 49 CFR 172.101, should be consulted. This hazardous materials table presents the following:

- A list of the names of hazardous material, in alphabetical order
- The hazard class associated with each hazardous material
- A reference to the proper container(s) to be used for packaging the hazardous material
- The label to be applied to the container before transport
- A reference to other regulations that may apply, depending on the method used to ship the container.

The guidelines below describe the steps for using the Hazardous Materials Table to determine the correct container for a specific hazardous waste. Users can identify the appropriate containers by

- Determining the hazard and the major constituents of the waste stream. (For example, deciding whether the waste stream consists primarily of paint-related material, is flammable, is a spent solvent such as MEK, or is a corrosive material.)

- Referencing the name from the table that best describes the waste. Users should remember that the tables are for hazardous material but that the descriptions are also applicable to wastes. Therefore, to identify the proper DOT name for waste, the user would use the DOT name from the table but would add the word "Waste" to the name.

Note: If there is not a DOT description that adequately describes the waste stream, users may choose to substitute one of the following designations: "Environmentally Hazardous Substance," "Hazardous Substance," "CERCLA Waste," or "Hazardous Waste," which are also contained in the hazardous materials table. Each of these designations (and various other shipping names) is followed by the initials n.o.s. (not otherwise specified). When the n.o.s. designation is used, the shipper must provide a description of the primary and secondary hazardous material or constituent associated with the waste in parentheses after the proper DOT shipping name.

No waste material shall be placed in an unwashed container that previously held an incompatible waste or material [40 CFR 264.177(b), IDAPA 58.01.05.008]. Furthermore, two or more incompatible wastes must not be stored in the same container, as this could have catastrophic results [40 CFR 264.177(a), IDAPA 58.01.05.008].

**6.2.4.2 Container Handling.** Containers received at the SSA are off-loaded from the transport vehicle to the storage area. The containers are inspected, placed in the appropriate storage location, labeled as discussed in Section 6.2.5, and kept closed except when waste is added or removed. Containers are placed so that the compatibility markings are visible for inspection. The health and safety procedures for handling containers at the SSA will be developed prior to personnel actually handling any waste containers.

**6.2.4.3 Container Types.** All containers shall conform to the hazardous materials table in 49 CFR 172.101, which includes assigning DOT hazard class/divisions and proper shipping names. Containers of waste shall not be opened, handled, or stored in a manner that will cause leakage [40 CFR 264.173(b), IDAPA 58.01.05.008]. When CERCLA remediation wastes are shipped from various WAGs to the SSA, the waste generator will be required to ensure that the waste is packaged in accordance with 49 CFR 172.101.

**6.2.4.4 Fifty-five-Gallon Steel Drum.** The DOT weight limit for a United Nations (UN) 1A2 55-gal drum is 1,000 lb.

**6.2.4.5 Roll-Off Containers.** Roll-off containers are constructed according to general manufacturing specifications.

**6.2.4.6 Crosslinkable Polyethylene Tanks.** Vertical Closed Top (VCT) and Vertical Open Top (VOT) tanks, illustrated in Figures 6-1 and 6-2, may be used to store liquid and solid or other CERCLA-generated waste. They will be fitted with secondary containment when required. The larger VOT tanks will be used as secondary containment. Both are constructed of crosslinkable polyethylene. Specifications will meet or exceed the resin type, design standard, sizing, intended service, fittings, accessories and warranty required for rotationally molded aboveground storage tanks, as per ASTM D 1998-97, Type I, "Tanks molded from crosslinkable polyethylene." If liquid generation exceeds the storage capacity of the tanks currently in use, new tanks will be procured. The tanks used to store CERCLA wastes that also have RCRA waste codes (listed or characteristic) will be reviewed and certified by an independent, qualified registered professional engineer in accordance with the substantive requirements of 40 CFR 264.192.

**6.2.4.7 INEEL Wooden Boxes.** The maximum-loaded gross weight, uniformly distributed, for the INEEL wooden boxes is 12,800 lb. The generating organization must ensure that sufficient blocking is used to keep heavy items in place and to distribute the load uniformly within the container. INEEL wooden boxes are constructed to the specifications identified in SPC-1512.

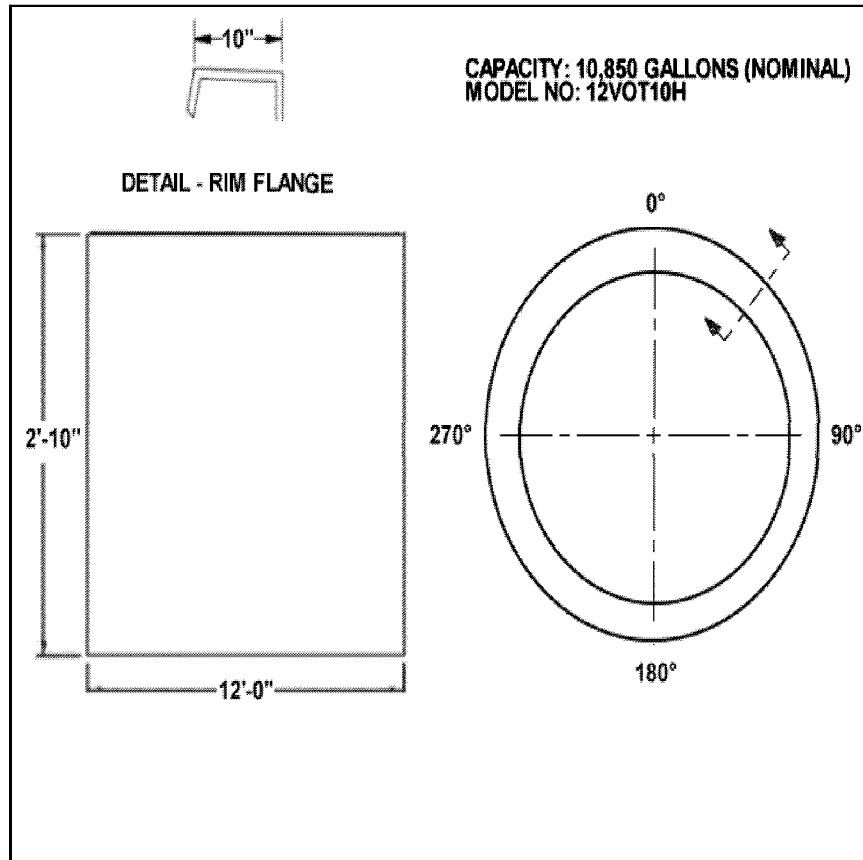


Figure 6-1. Vertical Open Top tank.

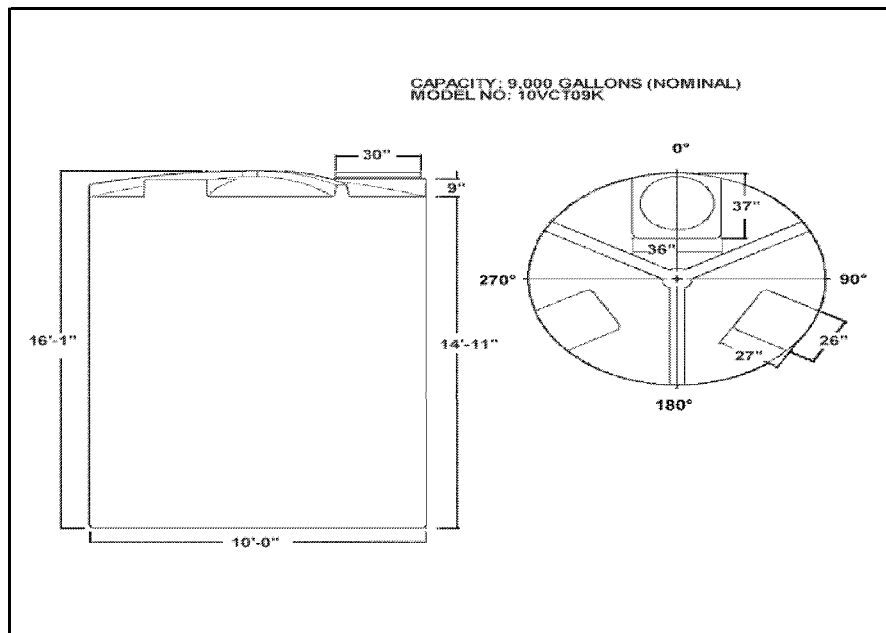


Figure 6-2. Vertical Closed Top tank.

**6.2.4.8 TSCA Storage Containers.** Before an asbestos or PCB TSCA-regulated waste container may be accepted for storage, the following requirement shall be met:

- PCB TSCA-regulated waste  $\geq 500$  ppm will not be accepted at the SSA for temporary storage.
- Asbestos waste will be packaged and labeled in accordance with the INEEL Site Asbestos Program.
- If the waste in the container or tank is incompatible with other materials stored nearby, distance or barriers shall separate the containers to prevent mixing in case of rupture [40 CFR 264.177 (c), IDAPA 58.01.05.008].

## 6.2.5 Labeling

Table 6-2 indicates the label specified for each type of waste. Operating Method 2 in Appendix E outlines labeling methods for waste stored at the SSA.

Table 6-2. Label identification table.

Waste Type	Radioactive	CERCLA Waste	TSCA Waste	Pending Sampling and Analysis	IWTS Barcode or Number
Hazardous waste	NA <sup>a</sup>	XX	NA	XX (if applicable)	XX
Radioactive	XX	XX	NA	XX (if applicable)	XX
Mixed	XX	XX	NA	XX (if applicable)	XX
TSCA (asbestos waste only)	XX	XX	XX	XX (if applicable)	XX
Other asbestos/radioactive waste	XX	XX	XX	XX (if applicable)	XX
Purge and development water	XX (if applicable)	XX	NA	XX (if applicable)	XX
Case-by-case (waste-dependent)	XX (if applicable)	XX	XX (if applicable)	XX (if applicable)	XX

a. NA = not applicable

The marking on the containers must always be clearly visible for inspection of each container, and all container labels must be placed where they are clearly visible during storage and shipment. Drums will be labeled on one side in a manner so the label is visible during inspections. Boxes will be labeled on two opposing sides of the container and placed in a manner that the label is visible during inspections. Containers of waste shall not be opened, handled, or stored in a manner that will cause leakage (40 CFR 264.173(b), IDAPA 58.01.05.008).

**6.2.5.1 Radioactive Waste.** As required by the *INEEL Radiological Control Manual* (Radiological Control Department 2000), radiation labels will be completed by a radiological control technician (RCT) and placed on two opposing sides of the container in a manner so the label is visible during inspections. Radiation dose may also be written on the container to facilitate ease of reading dosage while keeping in line with ALARA.

**6.2.5.2 CERCLA Waste.** Standardized labels are available that provide the required information and blanks for site-specific information. All CERCLA remediation waste will be labeled with a "CERCLA Waste" label that includes an accumulation start date, waste description, applicable codes, and the generator's name. Figure 6-3 provides an example of a standard label.

**6.2.5.3 TSCA Waste Labels.** Asbestos-containing material with excessive radioactivity levels may be a candidate for the SSA. Generators will obtain labels for asbestos labeling and all asbestos-containing material will be labeled per the Site Asbestos Program.

**6.2.5.4 Pending Analysis.** Waste from outside the WAG 3 AOC should not arrive at the SSA prior to profile acceptance. If waste does not have analysis documentation, the generator must keep the waste until analysis results are received and the waste profile has been properly filled out.

If waste from within the WAG 3 AOC does not have analysis documentation, the generator must label the container "CERCLA Waste, Analysis Pending."

CERCLA WASTE	
Operable Unit:	_____
Hazardous Waste Code(s):	_____
Date Placed in Storage:	_____
Waste Form: (liquid, solid, soil, PPE, etc.):	_____
For Information Contact:	_____
	_____

Figure 6-3. Standard CERCLA waste label.

The generator is ultimately responsible for ensuring that the waste is properly analyzed and profiled before it is shipped to the SSA.

**6.2.5.5 CERCLA Database Label.** Each container will have a label generated by the CERCLA database. This number will be obtained from the WAG 3 OS until the database is operational.

### 6.3 Management of Waste at the SSA

Currently, the SSA contains contaminated soil, debris and aqueous wastes generated during site characterization within the INTEC facility. These wastes will remain in storage until the ICDF Complex opens.

Table 3-1 identifies the waste types that may be accepted into the SSA. Within the SSA storage capacity, the waste may be allotted separate storage areas that not only allow the waste from the different groups to be segregated, but also allow different types of waste to be stored in separate areas if segregation is required due to incompatibility. Potential waste includes solid waste, hazardous waste,

radioactive waste, purge and development water, asbestos waste, mixed waste, transuranic waste, orphan waste, IDW, secondary waste, construction waste, and other waste that will be considered on a case-by-case basis, as described in Section 4.5.

### 6.3.1 Waste Evaluation and Acceptance

A waste evaluation and confirmation process will be conducted to ensure that the waste accepted by the facility meets all waste acceptance requirements. This process may consist of one or more of the following:

- Testing, sampling, and analysis of the representative samples received at the facility or taken by the generator facility
- Review of sampling/analysis data by a facility or independent laboratory
- Audits, surveillance, and/or observations of the generator's waste characterization activities.

### 6.3.2 Waste Storage

For all waste stored at the SSA the following applies:

- Containers storing ignitable waste will be located at least 15 m (50 ft) inside the facility property line (40 CFR 264.176). For the purposes of this document, the "facility property line" is the INTEC fence line.
- All waste entering the SSA will be appropriately segregated to ensure compatibility. Prior to the shipment of waste to the SSA, the generator will package the waste in containers that are made of or lined with materials that will not react with, and are otherwise compatible with, the waste to be stored, so that the ability of the container to contain the waste is not impaired. Waste Generator Services (WGS) and Packaging and Transportation personnel provide guidance on waste compatibility and container use by means of DOT regulations, company procedures, and chemical compatibility charts.
- As required under 40 CFR 264.35, minimum aisle space will be maintained to allow unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of the SSA operation in an emergency.
- The liquid storage area for the tanks will be located at the paved and fenced area of the SSA. Adequate aisle space will be provided around the liquid storage containers, and secondary containment will be provided. The WAG 3 OS will ensure that incompatible materials are not stored together.

**6.3.2.1 Solid Waste.** Solid waste will be nonhazardous/nonradioactive solid waste consisting of office waste and inert demolition waste. Typically, this waste will be shipped to the INEEL Landfill Complex. In the event that the INEEL Landfill Complex cannot accept a waste shipment of this type, the generator must then make arrangements for proper disposal of the solid waste. In some cases, solid waste may be accepted at the SSA for temporary storage.

**6.3.2.2 CERCLA Waste.** It is anticipated that all containers of CERCLA waste will be stored in the SSA until the ICDF Complex is operational. Wastes stored at the SSA shall be maintained and operated to minimize the possibility of fire, explosion, or any release of hazardous waste (40 CFR 264.31, IDAPA 58.01.05.008).

### **6.3.3 Tracking and Reporting**

To ensure that all CERCLA-generated waste is accurately tracked, all waste containers will have a unique IWTS label and number. The container numbers are generated automatically by the IWTS. The individual container numbers are associated with and maintained in the material (parent) profile. The IWTS has the ability to track infinite genealogies for any given container and identify and generate additional container numbers. The database will also be used to generate any necessary reports.

### **6.3.4 Periodic Inspections**

Container inspections will be conducted weekly to monitor the facility for the following:

- Leaks and/or deterioration caused by corrosion or other factors (40 CFR 264.174)
- Security issues [40 CFR 264.14(a), (b) and (c) and IDAPA 58.01.05.008]
- Other required periodic inspection items.

The inspection form must be completed, dated, and signed. The actual inspection checklist used for weekly inspections is shown in Appendix F. The deficiency resolution tracking table found in Appendix F will be completed for each deficiency identified on the inspection checklist. The item number will be noted and the nature of the deficiency described in the table. Each week, the status of previously identified deficiencies that have not yet been resolved will be indicated. When any deficiencies are resolved, they will be documented in the “Deficiency Resolution Status” column describing how the deficiency was corrected and any applicable documentation will be placed in the project file.

Tanks require inspections at least once every operating day. As per 40 CFR 264.195, daily inspections must consist of the following:

- Overfill/spill control equipment, to ensure that it is in good working order
- Aboveground portion of the tank system, if any, to detect for corrosion or release of waste
- The construction material and the area immediately surrounding the externally accessible portion of the tank system (e.g., pressure gauges, monitoring wells) to ensure that the tank system is being operated according to its design, including secondary containment structures, to detect erosions or signs of releases of hazardous waste.

The daily tank inspection checklist is presented in Appendix G. The deficiency resolution tracking table found in Appendix G will be completed for each deficiency identified on the inspection checklist. The item number will be noted and the nature of the deficiency will be described in the table. Each day, the status of previously identified deficiencies that have not yet been resolved will be indicated. When any deficiencies are resolved, they will be documented in the “Deficiency Resolution Status” column describing how the deficiency was corrected and any applicable documentation will be placed in the project file.

Personnel monitoring and an RWP are required of workers entering any radiation area. Further monitoring is not required.

### **6.3.5 Further Sampling**

The generating organization will be responsible for performing any additional sampling requirements not known at the time the waste is brought to the SSA. Although the practice of delivering waste to the SSA prior to full analysis will be discouraged, some waste may arrive requiring additional analysis.

### **6.3.6 Spill Containment**

In the case of an unauthorized release of hazardous materials to state waters or to land where there is a likelihood that it will enter state waters, the responsible person in charge (IDAPA 58.01.02.850) will

- Make every reasonable effort to abate and stop a continuing spill.
- Make every reasonable effort to contain spilled material in such a manner that it will not reach surface or groundwater of the state.
- Immediately notify the INTEC shift supervisor. The INTEC shift supervisor will facilitate appropriate notifications such as the Idaho Department of Environmental Quality and the Department of Energy Idaho Operations Office or designated agent of the spills.
- Collect, remove, and dispose of the spilled material in a manner approved by the Idaho Department of Environmental Quality.
- Immediately notify the WAG 3 SSA OS.

### **6.3.7 Emergency Response**

The INEEL has emergency response procedures established in "INEEL Emergency Plan/RCRA Contingency Plan, Appendix L20," and the Spill Prevention, Control and Countermeasures (SPCC) plan is located in Appendix G of PLN-114-2, Rev. 3, dated November 24, 1999.

In addition to the requirements of the plan, there shall be sufficient aisle space to allow the unobstructed movement of emergency equipment and personnel (40 CFR 264.35, IDAPA 58.01.05.008).

## **6.4 Training**

WAG 3 maintains full-time health and safety personnel to provide training and direction on safety and operating standards, continually monitoring compliance with all rules and regulations as directed by the Health and Safety Plan. All training will be consistent with 10 CFR 835, DOE Order 5400.5, IDAPA 58.01.05.008, and 40 CFR 264.16(a)(1)(c). The compliance monitoring includes identifying retraining needs and administering the Industrial Hygiene Program. Required training items are further discussed in the SSA Health and Safety Plan.

## **6.5 Records**

All records will be maintained in accordance with records storage procedures and CERCLA guidelines. The records and documents that will be kept and maintained include the following:

- Waste profiles and any accompanying information (i.e., analytical results, memos, sampling plans)



- Inspection records
- Tank records until closed per 40 CFR 264, Subpart J, and IDAPA 58.01.05.008
- Asbestos waste records
- Audit, surveillance, and observations of generator's waste characterization activities
- Training records
- Any other applicable documentation.

## 7. REFERENCES

- 10 CFR 61, 2000, "Licensing Requirements for Land Disposal of Radioactive Waste," *Code of Federal Regulations*, Office of the Federal Register, January 2000.
- 10 CFR 61.56, 2000, "Waste Characteristics," *Code of Federal Regulations*, Office of the Federal Register, January 2000.
- 10 CFR 835, 2000, "Occupational Radiation Protection," *Code of Federal Regulations*, Office of the Federal Register, January 2000.
- 40 CFR 191, 2000, "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level and Transuranic Radioactive Wastes," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261, 2000, Appendix II, "Method 1311 Toxicity Characteristic Leaching Procedure," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261, 2000, Subpart C, "Characteristics of Hazardous Waste," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261, 2000, Subpart D, "List of Hazardous Waste," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.2, 2000, "Definition of Solid Waste," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.3, 2000, "Definition of Hazardous Waste," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.21, 2000, "Characteristic of Ignitability," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.22, 2000, "Characteristic of Corrosivity," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.23, 2000, "Characteristic of Reactivity," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.24, 2000, "Toxicity Characteristic," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 261.31, 2000, "Hazardous Wastes from Non-Specific Sources," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 262.34, 2000, "Accumulation Time," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264, 2000, "Standards for Owners and Operators of Hazardous Waste Treatment, Storage, And Disposal Facilities," *Code of Federal Regulations*, Office of the Federal Register, July 2000.

- 40 CFR 264, 2000, Subpart I, “Use and Management of Containers,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264, 2000, Subpart J, “Tank Systems,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264, 2000, Subpart J, “Tank Systems,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.14, 2000, “Security,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.16, 2000, “Personnel Training,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.31, 2000, “Design and Operation of Facility” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.35, 2000, “Required Aisle Space,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.173, 2000, “Management of Containers,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.174, 2000, “Inspections,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.176, 2000, “Special Requirements for Ignitable or Reactive Waste,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.177, 2000, “Special Requirements for Incompatible Wastes,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.192, 2000, “Design and Installation of New Tank Systems or Components,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.195, 2000, “Inspections,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.552, 2000, “Corrective Action Management Units (CAMU),” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 268, 2000, “Land Disposal Restrictions,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 268, 2000, Subpart D, “Treatment Standards,” *Code of Federal Regulations*, Office of the Federal Register, July 1, 2000.
- 40 CFR 268.2, 2000, “Definitions Applicable in this Part,” *Code of Federal Regulations*, Office of the Federal Register, July 2000.

- 40 CFR 268.45, 2000, "Treatment Standards for Hazardous Debris," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 279, 2000, "Standards for the Management of Used Oil," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 300.5, 2000, "Definitions," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 300.440, 2000, "Procedures for Planning and Implementing Off-Site Response Actions," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 761, 2000, "Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution in Commerce, and Use Prohibitions," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 761.60, 2000, "Disposal Requirements," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 49 CFR 172, 1999, "Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements," *Code of Federal Regulations*, Office of the Federal Register, October 1999.
- 49 CFR 172.101, 1999, "Purpose and Use of Hazardous Materials Table," *Code of Federal Regulations*, Office of the Federal Register, October 1999.
- 49 CFR 173.50, 1999, "Class 1—Definitions," *Code of Federal Regulations*, Office of the Federal Register, October 1999.
- 49 CFR 173.54, 1999, "Forbidden Explosives," *Code of Federal Regulations*, Office of the Federal Register, October 1999.
- 42 USC § 2011 et seq., "Atomic Energy Act of 1954," as amended, *United States Code*.
- 42 USC 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation, and Liability Act," *United States Code*.
- 42 USC § 10101 et seq., "Nuclear Waste Policy Act of 1982," as amended, *United States Code*.
- ASTM D1998, 1997, "Standard Specification for Polyethylene Upright Storage Tanks," American Society for Testing and Materials, November 1997.
- DOE, O 435.1, Change 1, 2001, "Radioactive Waste Management," U.S. Department of Energy, August 28, 2001.
- DOE, O 5400.5, Change 2, 1993, "Radiation Protection of the Public and Environment," U.S. Department of Energy, January 1993.
- DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, U.S. Department of Energy Idaho Operation Office, U.S. Environmental Protection Agency Region 10, State of Idaho Department of Health and Welfare, December 1991.

DOE-ID, 1999, *Final Record of Decision, Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13*, DOE/ID-10660, Rev. 0, U.S. Department of Energy Idaho Operations Office, October 1999.

EDF-ER-294, 2001, “Staging and Storage Annex Hazard Classification,” Rev. 2, Environmental Restoration Program, January 2001

EPA, 1986, “Paint Filter Liquids Test, Method 9095A,” SW-846, U.S. Environmental Protection Agency, November 1986.

IDAPA 58.01.02.850, “Hazardous Materials Spills,” Idaho Administrative Procedures Act, Idaho Department of Environmental Quality Rules, July 1993.

IDAPA 58.01.05.005, “Identification and Listing of Hazardous Waste,” Idaho Administrative Procedures Act, Idaho Department of Environmental Quality Rules, March 2002. (as promulgated as of December 1999)

IDAPA 58.01.05.008, 2001, “Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities,” Idaho Administrative Procedures Act, Department of Environmental Quality, March 2001. (as promulgated as of December 1999)

PLN-114-2, 2001, “Emergency Preparedness – Addendum 2 Idaho Chemical Processing Plan,” Rev. 80, Emergency Preparedness Department, Idaho National Engineering and Environmental Laboratory, August 2001.

Radiological Control Department, 2000, *Manual 15A - Radiation Protection - INEEL Radiological Control Manual*, Rev. 6, PRD-183, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, July 2000.

SPC-1512, 2002, *2 x 4 x 8 and 4 x 4 x 8 Ft, 12,800 Lb, Radioactive Waste*, Wood Containers, Rev. 1, Packaging and Transportation Department, INEEL, January, 2002. Waste Isolation Pilot Plant Waste Acceptance Criteria (WIPP WAC).

Waste Isolation Pilot Plant Land Withdrawal Act of 1992, Pub. L. 102-579, 106 Stat. 4777.

## **Appendix A**

### **SSA As-Built Drawings, Design Drawings, and Specifications**





Figure A-1. Paving, grading, and fencing plan at the SSA.



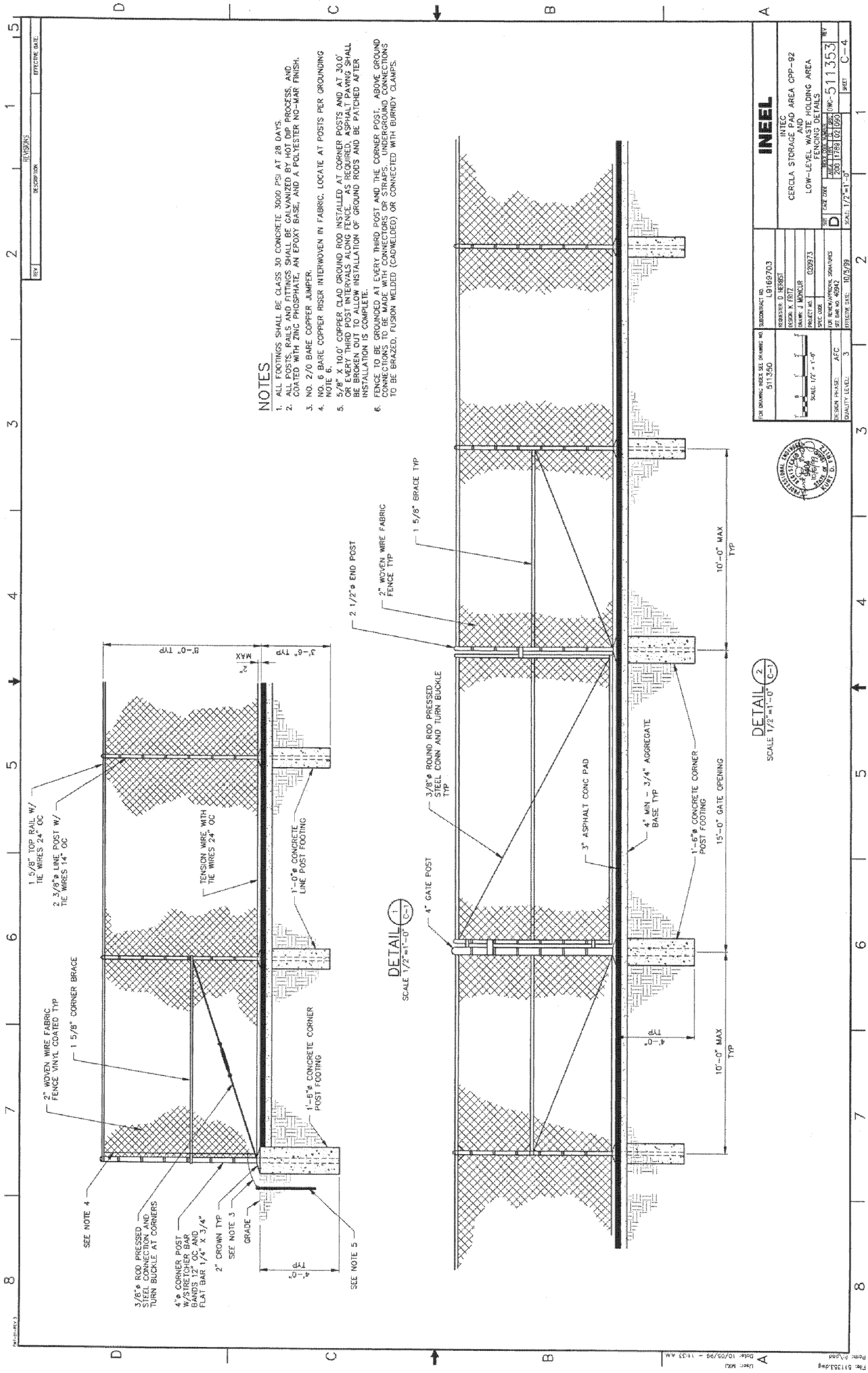


Figure A-2. Fence design and specifications of the SSA.

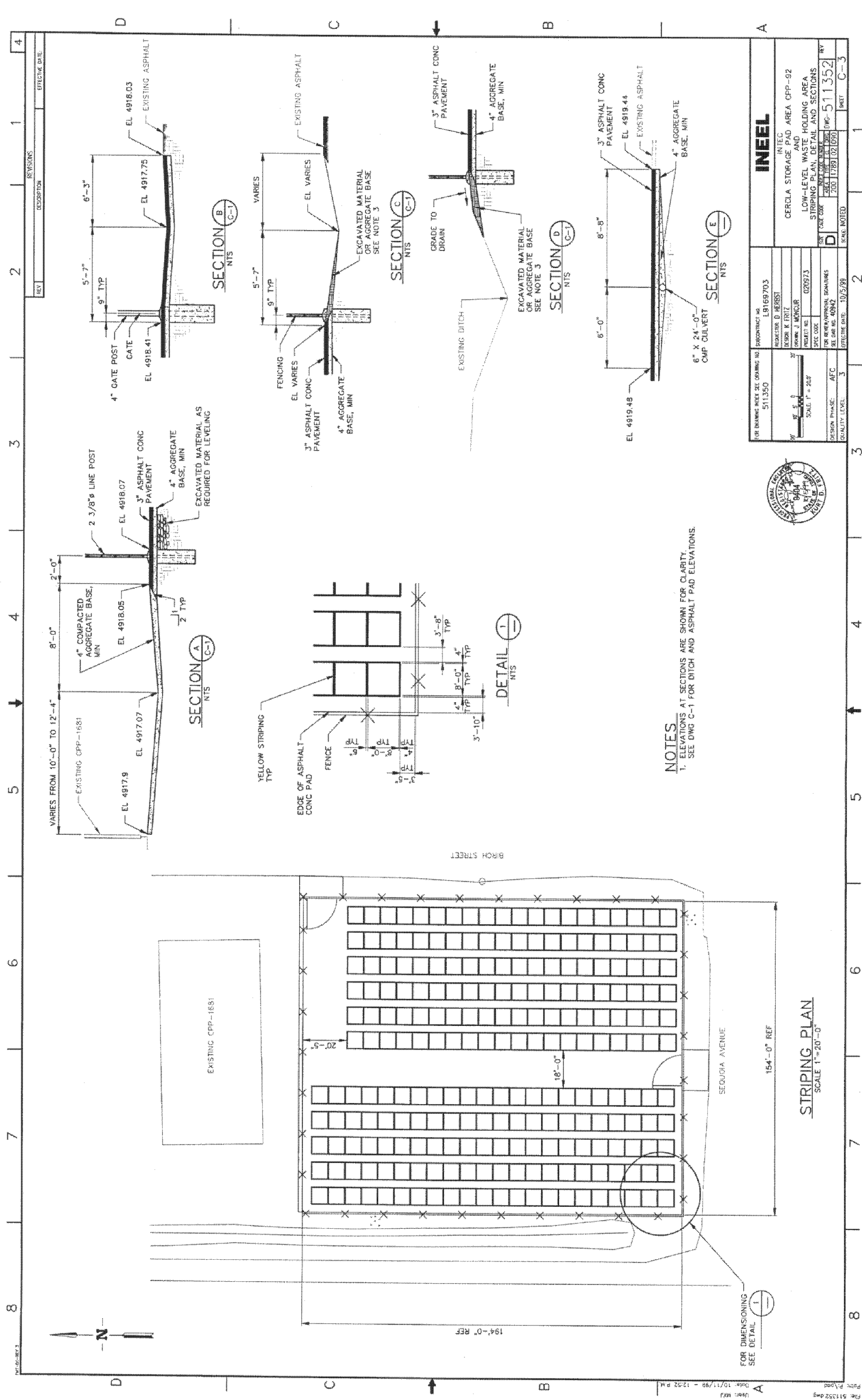


Figure A-3. Striping plan at the SSA.



**Appendix B**  
**ARARs Compliance for the SSA**



## APPENDIX B

### ARARs Compliance For The SSA

Table B-1. Compliance with ARARs for Group 3 SSA.

Citation	Title	Comments
IDAPA 58.01.05.006 (40 CFR 262.11)	Hazardous Waste Determination	Provides the requirement for preparing hazardous waste determinations for wastes.
IDAPA 58.01.05.005 (40 CFR 261.20 through 24)	Hazardous Waste Characteristics Identification	Identifies the characteristics of a solid waste that, if exhibited, would make the waste a hazardous waste.
IDAPA 58.01.05.008 [40 CFR 264.14(a), (b), (c)]	Security	Describes security to be provided to prevent the unknowing or unauthorized entry of persons or livestock to the facility.
IDAPA 58.01.05.008 [40 CFR 264.15(a),(c)]	General inspection requirements	Describes the general inspection requirements for the facility.
IDAPA 58.01.05.008 [40 CFR 264.16(a)(1),(c)]	Personnel training	Describes the training and records requirements for facility personnel.
IDAPA 58.01.05.006 (40 CFR 262.34[a][1])	Accumulation time	Describes the requirements for accumulation of waste on-site.
40 CFR 264 Subpart I	Use and management of containers	Describes the requirements for management of facilities that store hazardous waste in containers
40 CFR 264 Subpart J	Tank systems	Describes requirements imposed on owners and operators that use tank systems for storing or treating hazardous waste in tank systems.
IDAPA 58.01.05.008 (40 CFR 264 Subpart BB)	Air emissions standards for equipment leaks	Describes the requirements for equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight.
IDAPA 58.01.05.008 (40 CFR 264 Subpart CC)	Air emission standards for tanks, surface impoundments, and containers	Describes the requirements associated with the air emission standards for tanks and containers used to store hazardous waste.
DOE O 5400.5	Exposures to the public will be kept ALARA	Establishes that the management of the radioactive waste will be conducted in a manner that is protective of the public.
DOE Order 435.1	Radioactive waste management performance objectives to protect workers	Provides requirements to be met to protect workers during operation of the facility.



## **Appendix C**

### **Radiological Calculation Methods**





## **Appendix C**

### **Radiological Calculation Methods**

A description of the radiological calculational methods can be found in *Waste Acceptance Criteria for ICDF Landfill*, DOE/ID-10865, Rev. 2, U.S. Department of Energy Idaho Operations Office, May 2002.

## **Appendix D**

### **Waste Profile**



# Appendix D

## WASTE PROFILE



### Integrated Waste Tracking System Material and Waste Characterization Profile INFORMATION ONLY

3204Q : Sample MP



#### Waste Stream Information

Material Profile No.: 3204Q

Profile Date: 14-Feb-2002

Profile Name: Sample MP

Site Treatment Plan ID: ID-TEC-201

Generating Location: OU3-04 : WAG 3 Operable Unit 3-04

Waste Type and Action: MLLW: CERCLA Generated to be Dispositioned at the ICDF Complex

Status: ☒ Active (waste currently being generated)  
☐ Inactive (waste not currently being generated)  
☐ Cancelled (waste never generated)

#### Certification, Review, & Approval

<b>Certified</b>	Name:
	Date:
	Phone:
	FAX:
	E-Mail:

<b>Reviewed</b>	Name:
	Date:
	Phone:
	FAX:
	E-Mail:

<b>Approved</b>	Name:
	Date:
	Phone:
	FAX:
	E-Mail:

#### Last Profile Update and Approval

<b>Updated/Approved</b>	Name:
	Date:
	Phone:
	FAX:
	E-Mail:



Integrated Waste Tracking System  
Material and Waste Characterization Profile  
INFORMATION ONLY

3204Q : Sample MP



General Information

1. ☒ Yes ☐ No Will material and waste characterization be fully capable of complying with applicable Waste Acceptance Criteria?

If "No", receiving organization approval and completion of the following is required

a. Waste Acceptance Criteria requirement(s) not met (list each):

b. Receiving organization approval letter number for nonstandard material or waste

Contact	Name	E-Mail ID	Phone	Pager	Mail Stop
2. Generator Contact					
3. Technical Contact					

Charge Number

4. Material or waste type and action: MLLW: CERCLA Generated to be Dispositioned at the ICDF Complex

5. Profile Name: Sample MP

6. Waste Generated From: Is this secondary Cleanup/Stab. waste? Cleanup/Stabilization Activity: Generating Status:
- ☐ Routine Operations ☐ Yes ☒ No ☐ Environmental Restoration ☐ One time only
- ☒ Cleanup/Stabilization Activities ☐ On-going

NOTE: Indicates whether there will be one shipment or a series of shipments

7. Generating process description: Sample MP

8. Physical state at 70 degrees F (solid, liquid, sludge, gel, etc.): solid

9. ☐ Yes ☒ No Does the material contain free liquids?

10. ☒ Yes ☐ No Current waste minimization plan? (INEEL Generators Only)

Reference: Sample

11. Indicate all that apply:

- ☒ CERCLA ☐ Nonfriable asbestos ☐ Compressed gas cylinders ☐ Wastewater ☐ Debris - 435.1
- ☐ Scrap Metal ☐ FIFRA ☐ Friable asbestos ☐ Classified material ☐ Debris - Non RCRA/435.1
- ☐ OSHA carcinogen ☐ Unused material ☒ Soil ☐ Accountable nuclear material
- ☐ PCB >= 50 ppm ☐ Used oil ☐ Debris - RCRA ☐ > 100 PPM VOCs
- ☐ Etiologic Agent ☐ Aerosol cans ☐ Spill cleanup ☐ Universal Waste



**Integrated Waste Tracking System**  
**Material and Waste Characterization Profile**  
**INFORMATION ONLY**

3204Q : Sample MP



12. ☒ Yes ☐ No Is this DOT regulated hazardous material? If yes, identify DOT primary hazard: Radioactive, Class 7  
and DOT subsidiary hazard(s):
13. ☒ Yes ☐ No At the point of generation did this material contain RCRA "F", "K", "U", or "P" listed waste either in pure form, as a mixture, or as a treatment residual (i.e., ash, leachate, spill cleanup), or "D" characteristic waste? If yes, give applicable EPA:  
Source Code: G43 : Remediation of Past Contamination : Remedial action or emergency response under Superfund  
Form Code: W409 : Organic Solids : Other organic solids  
and EPA Hazardous Waste Numbers (40 CFR 261): F001,F002,F005  
and attach applicable LDR notification and certification (40 CFR 261)
14. RCRA hazardous waste determination was made by: ☐ Waste analysis, ☐ Process knowledge and/or ☒ Both
15. ☐ Yes ☒ No Does this Material Profile contain Lab Packs?
16. ☒ Yes ☐ No Was an Underlying Hazardous Constituent (UHC) determination performed?  
16a. ☐ Yes ☒ No If a UHC determination was performed, were any detected in concentrations exceeding the Universal Treatment Standard?
17. ☐ Yes ☒ No Is supporting documentation submitted? If yes, list.
18. ☐ Yes ☐ No The following data, by parameter, has been provided along with analytical data (required for waste to be dispositioned at the ICDF)  
Mean, Standard Deviation, Confidence Level.
19. ☐ Yes ☒ No Additional narrative:

**Current Generation Estimates**

Estimate Date	Start Year	Int. Yrs.	Volume		Mass		Data Entry By		Inactivated By	
			Quan.	Units	Quan.	Units	User ID	Date	User ID	Date
14-Feb-2002	2002	1	100000.00	FT3	520255	LBS	CumuttJ	14-Feb-2002		

**Characteristics of Material**

1. Physical Characteristics of Material

a. Layer characteristics:

Layer No.	Physical State at 70 degrees F	Range of Percentage of Total			Description (as required by GI)
1.	solid	0	to	100 wt%	Brown



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b. Density of material or waste (NA for hazardous waste and recyclable material).

Liquid: \_\_\_\_\_ to \_\_\_\_\_ g/ml Solid: 1.1 to 2.1 g/cc

c. ☐ Yes ☒ No Is this aqueous? If yes, give total solids range:

\_\_\_\_\_ to \_\_\_\_\_ g/ml

d. ☐ Yes ☒ No Is this incinerable liquid? If yes, give viscosity range:

\_\_\_\_\_ to \_\_\_\_\_ SSU

2. Chemical Characteristics of Material:

a. Does the material contain any of the following? For each item checked yes, must include corresponding quantitative information in 2b.

Yes No

- ☐ ☒ Free liquid - Organic based
- ☐ ☒ Free liquid - Aqueous based
- ☐ ☒ Absorbents
- ☐ ☒ Chelating agents
- ☐ ☒ Aqueous liquid with reactive cyanide  $\geq 250$  ppm
- ☐ ☒ Aqueous liquid with reactive sulfide  $\geq 500$  ppm
- ☐ ☒ Air reactives
- ☐ ☒ Water reactives
- ☐ ☒ Other reactives
- ☐ ☒ Fuming acids or acid gases
- ☐ ☒ Shock sensitive constituents
- ☐ ☒ Explosives
- ☐ ☒ Pyrophorics
- ☐ ☒ Petroleum products
- ☐ ☒ Oxidizers
- ☐ ☒ Benzene
- ☐ ☒ PCBs  $\geq 25$  ppm
- ☐ ☒ PCBs  $\geq 5$  ppm
- ☐ ☒ PCB liquids
- ☐ ☒ PCB capacitors/ballasts
- ☐ ☒ PCB transformers/regulators
- ☐ ☒ PCB liquid contaminated debris or derived from a spill of PCB liquid
- ☐ ☒ PCBs  $\geq 50$  ppm

Yes No

For fluid to be process in the PWTU only

- ☐ ☒ Oil and grease  $\geq 10$  mg/L

For liquid waste only

- ☐ ☒ Halogenated organic compounds  $\geq 1000$  mg/L as listed in 40 CFR 268, Appendix III
- ☐ ☒ Nickel and/or its compounds (as Ni)  $\geq 134$  mg/L
- ☐ ☒ Thallium and/or its compounds (as Tl)  $\geq 103$  mg/L

For solid waste only

- ☐ ☒ Halogenated organic compounds  $\geq 1000$  mg/L as listed in 40 CFR 268, Appendix III

For used oil only

- ☐ ☒ Arsenic  $\geq 5$  ppm
- ☐ ☒ Cadmium  $\geq 2$  ppm
- ☐ ☒ Chromium  $\geq 10$  ppm
- ☐ ☒ Lead  $\geq 100$  ppm
- ☐ ☒ PCBs  $\geq 2$  ppm
- ☐ ☒ Total halogens  $\geq 1,000$  ppm
- ☐ ☒ Total halogens  $\geq 4,000$  ppm

Incinerable wastes only

- ☐ ☒ Bromine in any form
- ☐ ☒ Chlorine in any form
- ☐ ☒ Fluorine in any form
- ☐ ☒ Iodine in any form
- ☐ ☒ PCBs  $\geq 2$  ppm
- ☐ ☒ Sulfur in any form

2. Chemical Characteristics of Material (continued)

b. Composition of material:

Related Characteristic ("Other" Where NA)	Name of Material or Chemical	Carcinogen	Composition Range		
			From	To	Units
Any combination of material and scrap, no predominate material (Rubble)	Sample	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	0	100	wt%





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c. ☐ Yes ☒ No Is flash point applicable? If yes, complete the following:

Flash point is: \_\_\_\_\_ to \_\_\_\_\_ Method used: \_\_\_\_\_

(Specify Other): \_\_\_\_\_

d. Information for incinerable waste only:

(1) Heat of combustion \_\_\_\_\_ to \_\_\_\_\_ BTU/lb (2) Ash content \_\_\_\_\_ to \_\_\_\_\_ wt%  
(3) Total halogen content \_\_\_\_\_ to \_\_\_\_\_ ppm (4) Water content \_\_\_\_\_ to \_\_\_\_\_ wt%  
(5) Suspended particulates content \_\_\_\_\_ to \_\_\_\_\_ ppm

Metal	Known or Expected?		Expected Composition Range		Representative Sample Analysis	Detection Limit	Units
Antimony (Sb)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Arsenic (As)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Barium (Ba)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Beryllium (Be)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Cadmium (Cd)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Chromium (Cr)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	5.08	to 9.56	_____ to _____	_____	mg/kg
Cobalt (Co)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Copper (Cu)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Iron (Fe)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Lead (Pb)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	2.08	to 3.18	_____ to _____	_____	mg/kg
Manganese (Mn)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Mercury (Hg)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Molybdenum (Mo)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Nickel (Ni)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Potassium (K)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Selenium (Se)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Silver (Ag)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Sodium (Na)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Thallium (Tl)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Vanadium (V)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____
Zinc (Zn)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	_____	to _____	_____ to _____	_____	_____



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- e. ☒ Yes ☐ No Was a waste analysis performed (e.g., TCLP Data)?
- ☒ Yes ☐ No Were the sampling and analysis protocols used in full compliance with SW-846 protocol or other equivalent regulatory agency approved methods?

f. RCRA Hazardous Constituents (Concentration Based D004-D043)

EPA Code	Hazardous Constituent	Exp.? (Y,N)	TCLP Values	Type	Waste Concentration Range			Representative Sample			Detect Limit	
					From	To	Units	From	To	Units	Limit	Units
<b>Metals:</b>												
D004	Arsenic	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D005	Barium	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D006	Cadmium	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D007	Chromium	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D008	Lead	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D009	Mercury	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D010	Selenium	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D011	Silver	<input type="checkbox"/> <input checked="" type="checkbox"/>										
<b>Volatiles:</b>												
D018	Benzene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D019	Carbon tetrachloride	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D021	Chlorobenzene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D022	Chloroform	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D027	p-Dichlorobenzene (1,4-Dichlorobenzene)	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D028	1,2-Dichloroethane	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D029	1,1-Dichloroethylene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D035	Methyl ethyl ketone	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D038	Pyridine	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D039	Tetrachloroethylene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D040	Trichloroethylene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D043	Vinyl chloride	<input type="checkbox"/> <input checked="" type="checkbox"/>										
<b>Semi-Volatiles:</b>												
D023	o-Cresol	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D024	m-Cresol	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D025	p-Cresol	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D026	Cresol	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D030	2,4-Dinitrotoluene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D032	Hexachlorobenzene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D033	Hexachlorobutadiene	<input type="checkbox"/> <input checked="" type="checkbox"/>										
D034	Hexachloroethane	<input type="checkbox"/> <input checked="" type="checkbox"/>										



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EPA Code	Hazardous Constituent	Exp.?(Y,N)	TCLP Values	Type	Waste Concentration Range			Representative Sample			Detect Limit	
					From	To	Units	From	To	Units	Limit	Units

Semi-Volatiles:

D036	Nitrobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D037	Pentachlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D041	2,4,5-Trichlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D042	2,4,6-Trichlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			

Pesticides and Herbicides:

D012	Endrin	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D012	Endrin, Endrin aldehyde	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, alpha-BHC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, beta-BHC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, delta-BHC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, gamma-BHC (Lindane)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D014	Methoxychlor	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D015	Toxaphene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D016	2,4-D	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D017	2,4,5-TP (Silvex)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D020	Chlordane	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D031	Heptachlor	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D031	Heptachlor epoxide	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			

Note: "Type" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

g. RCRA Hazardous Constituents (Other)

EPA Code	Hazardous Constituent	TCLP Values	Type	Concentration Range			Representative Sample			Detect Limit	
				From	To	Units	From	To	Units	Limit	Units
F001A	Spent halogenated solvents used in degreasing; 1,1,1-Trichloroethane	No	2	-	-		-	-			
F002B	Spent halogenated solvents; 1,1,1-Trichloroethane	No	2	-	-		-	-			
F005B	Spent non-halogenated solvents; 2-Nitropropane	No	2	-	-		-	-			

Note: "Type" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

h. Underlying Hazardous Constituents

i. Analyte Data



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3. Radiological Characteristics of Material:

a. ☐ Yes ☒ No Is fissile material present?

If yes, waste matrix group is: \_\_\_\_\_

b. Total transuranic activity per gram of waste is: ☐  $\leq 10$  nCi/g (LLW) or  
☐  $> 10$  nCi/g and  $\leq 100$  nCi/g (Alpha LLW) or  
☐  $> 100$  nCi/g (TRU)

c. Isotope inventory:

**Other Isotopes**

Isotope	Activity Range		Representative Sample Analysis Activity
Ba-137m	1.040E-12	to 2.010E-11 pCi/g	_____
Cs-137	1.080E-12	to 2.050E-11 pCi/g	_____
Sr-90	4.500E-10	to 5.000E-09 pCi/g	_____
Y-90	4.080E-10	to 1.800E-09 pCi/g	_____

d. Expected radiation dose rate at surface: 0.1 to 0.5 mrem/hr  
at 1-meter: 0.01 to 0.05 mrem/hr

e. ☐ Yes ☒ No Is the waste greater than Class C as defined in 10 CFR 61.557?

f. Content Codes: \_\_\_\_\_

**Supplemental Information**

End of Report

## **Appendix E**

### **SSA Operation Methods**



## **E-1. SSA Operation Method 1**

### **Waste Profile Acceptance**

#### **1. Purpose**

To assign the responsibility and establish general requirements for receipt and documentation of waste acceptance and storage. This ensures that the waste will meet the SSA Waste Acceptance Criteria.

#### **2. Instructions**

2.1 Generator's WGS representative completes waste profile for all waste destined for the SSA.

2.2 Generator notifies WAG 3 OS of pending waste shipment to the SSA and provides OS with the completed waste profile.

**Note: Waste over 500 mRem/h at 3 ft must be identified.**

2.3 WAG 3 OS reviews waste profile for completeness and waste acceptability.

2.4 If the waste profile is complete and the waste is acceptable, the WAG 3 OS contacts generator and gives shipping date.

2.5 If the waste profile is incomplete or the waste does not meet the WAC, the WAG 3 OS contacts the generator and explains the deficiencies or informs the generator that the waste can not be shipped to the SSA.

2.5.1 Generator corrects profile as necessary and resubmits to the SSA OS.

2.6 Generator contacts Packaging and Transportation for proper shipping and labeling requirements, and must follow Specific Method G.2 SSA Waste Labeling requirements.

2.7 One day prior to shipment, the generator confirms with the WAG 3 OS that waste will be shipped the following day (verbal).

2.8 Generator ships waste to the SSA.

#### **3. Waste Acceptance Documentation and Transfer of Responsibility for Storage**

3.1 The WAG 3 OS will ensure that the shipment agrees with the waste profile per the inspection checklist:

- Shipment agrees with the preliminary waste profile.
- Shipments are properly prepared and documented.
- Labeling is correct.
- Packaging is per WAC requirements.
- Generator is notified of noncompliance and document discrepancies by phone or e-mail.

- Documentation and/or discrepancies are corrected if possible, or the shipment is rejected and returned to generator.
- The RCT will survey all incoming radioactive shipments.
- Seals are inspected, if applicable.

### 3.2 Documentation of Waste Receipt

#### 3.2.1 The WAG 3 OS will verify that the shipping documentation is in order by ensuring

- The transporter delivers the proper load manifests and documentation for the shipment as required by the SSA WAC.
- The waste is CERCLA-generated.
- The waste is stored in accordance with Operating Method 3.
- The waste is assigned to the proper storage area.
- The waste is off-loaded and copies of appropriate documentation given to the driver for return to the generator.

**Note: The transporter is not released until documentation has been provided.**

4. Final Acceptance – The waste receives final acceptance at the SSA when the WAG 3 OS signs off on the appropriate shipping document.



## **E-2. SSA Operation Method 2**

### **Labeling Acceptance**

#### **1. Purpose**

The purpose of this methodology is to ensure that all waste containers are properly marked for identification. While the waste is accumulated and upon its acceptance to the SSA, all waste containers must be clearly marked to ensure personnel know of the contents within. All marking and labeling requirements must comply with 49 CFR 171. This methodology identifies the procedure for properly labeling containers to ensure clear communication of the contents of each waste package.

#### **2. Instructions**

- 2.1 The generator must identify the waste that was placed in the container in the material profile and container profile.
- 2.2 The generator ensures that all containers have a barcode label generated from the IWTS database, as directed by the SSA OS.
- 2.3 The generator's WGS representative obtains all appropriate labeling.
  - 2.3.1 CERCLA Waste Labels. All CERCLA remediation waste will be labeled with a "CERCLA Waste" label that includes the operable unit, date the waste was placed in storage, waste description, applicable codes, and the generator's name. The label below provides an example of a standard label.
  - 2.3.2 IDW Labeling. Material that is considered investigation derived waste (IDW) will be identified with "CERCLA" labels and "IDW" written in the Waste Codes Area.
  - 2.3.3 Radioactive Waste Labels. As required by the INEEL Radiological Control Manual (Radiological Control Department 2000), radiation labels will be completed by a radiation control technician (RCT), when applicable. Two labels must be placed on the container on two opposing sides of the container. Packaging of radioactive waste shall be labeled as a Class A, B, or C in accordance with 10 CFR 61.55.

CERCLA WASTE	
Operable Unit	_____
Hazardous Waste Code(s):	<u><b>D001</b></u>
Date Placed in Storage:	<u><b>3 August, 2000</b></u>
Waste Form: (liquid, solid, soil, PPE, Other:	<u><b>solid</b></u>
For Information Contact:	<u>6-1515</u>

2.3.4 TSCA Waste Labels. TSCA waste containing asbestos shall be labeled with an asbestos label, in accordance with 40 CFR 763.171.

2.4 Mark the label with a permanent pen or using a label maker:

2.4.1 Identify the operable unit generating the waste.

2.4.2 Identify the waste codes that apply to the waste. This information is identified in the container profile in the IWTS.

2.4.3 Mark the Date of when the waste was placed in storage.

2.4.4 Mark the waste form on the label. (For example: Liquid, Solid, Solid-PPE, Solid-Soil, etc.)

2.4.5 Place the information contact as 6-1515.

2.5 Clean the areas where the labels will be placed.

2.6 Secure the labels firmly on the container to prevent tearing, ripping, or concealment of any of the information on the label.

## E-3. SSA Operation Method 3

### Waste Acceptance Into SSA

#### 1. Purpose

This procedure outlines the responsibilities and procedures for the acceptance and storage of waste at the SSA. The SSA OS has the direct responsibility of the WAG 3 SSA located at INTEC. This includes the segregation, storage, management and operation practices for the SSA.

**Note: Only the WAG 3 OS (or a person designated in writing) can accept or manage waste within this area. This is not a RCRA Storage Area.**

#### 2. Instructions

##### 2.1 Incoming Waste Shipments

2.1.1 The generating WAG has an accepted waste profile and will have followed the procedures outlined in Operating Method 1.

2.1.2 The driver is met at the SSA gate with all appropriate documentation for the waste to be accepted into the SSA.

2.1.3 The WAG 3 OS will review paperwork and perform an initial screening as outlined in Operating Method 1.

##### 2.2 Waste Container Storage Guidelines

2.2.1 All containers in storage will be arranged so that the containers and identification numbers are readily observable.

2.2.2 Aisle space will be adequate to ensure that all inspections and safety concerns can be properly addressed.

2.2.3 Waste container guidelines for containers or roll offs.

- Prior to the waste's shipment, the WAG 3 OS must approve waste containers. If waste is in supersacks, a secondary containment system (roll-offs or other approved container) will be required. At the discretion of the OS, WAG 3 may supply these containers, depending on availability and timing.
- Roll offs may be stacked, provided construction of the containers allows. Aisle space will be adequate for inspections and safety.
- Acceptable waste container types can be found in Table 6-1 of this WMP.
- Wooden containers may be stacked to approximately 8 ft high (i.e., 2- × 4- × 8-ft boxes four high, 4- × 4- × 8-ft boxes two high). Vulcan boxes may be stacked to not exceed three containers high.
- The stability of stacked waste will be verified prior to removal of fork lift tines or other lifting device.

- Drums will palletized and banded together in a  $2 \times 2$  configuration (four drums).
- Drums may require an inner liner.
- Door seals on roll-off containers must be in good condition and covers must prevent precipitation from accumulating inside containers.

#### 2.2.4 Guidelines for Tanks

- All tanks used to store CERCLA wastes that also have RCRA-waste codes (listed or characteristic) must meet the substantive requirements of the RCRA tank standards (40 CFR 264 Subpart J). This includes review and certification by an independent, qualified registered professional engineer in accordance with the substantive requirements of 40 CFR 264.192.
- Tanks must have the manufacturer's guarantee that they will withstand weather changes.
- Tanks must be closed at all times other than during waste management, (i.e. loading/unloading).
- Tanks should preferably be closed topped. However, under certain conditions, open topped tanks may be authorized.
- Aisle space will be adequate for inspections and safety.

#### 2.2.5 Guidelines for INEEL Wood Boxes

- Maximum weight 12,800 lb.
- Boxes will have liners.
- The lid will be secured and each box will be banded.
- Wooden containers may be stacked to approximately 8 ft high (i.e.,  $2 \times 4 \times 8$ -ft boxes four high,  $4 \times 4 \times 8$ -ft boxes two high). Vulcan boxes may be stacked to not exceed three containers high.
- Aisle space will be adequate for inspections and safety
- Boxes must be in good condition. Boxes with cracks or breaches will not be accepted.

### 2.3 Container Management

The SSA storage area will have designated areas for specific storage containers. The locations, number, and waste types will be documented on a map and maintained by the WAG 3 OS.

#### 2.3.1 Assign waste to the proper storage area.

- Roll-offs will be stored on compacted natural material base.
- Liquid containers will stored on an engineered asphalt pad.
- Tanks will be stored on asphalt pads.

- Dry containers may be stored on a compacted natural base.
- Boxes will be stored on an asphalt pad.
- Boxes containing material greater than 100 mrem/hr at 1 m will be evaluated to determine whether the material requires shielding with waste containers of lower activity material.

#### 2.3.2 Hazardous/mixed waste management

- Containers must be kept closed except when adding or removing waste.
- Containers must not be stored or handled in a manner which would cause them to leak.

#### 2.3.3 Incompatible Waste

- Wastes will be segregated to ensure compatibility.

#### 2.3.4 Inspections

- Inspections will be performed per the requirements of Operating Method 4.

#### 2.3.5 Spill Containment

- All liquid containers will require secondary containment to meet the substantive requirements of 40 CFR 264.193.

#### 2.3.6 Recordkeeping

- A map with waste designations, locations, and quantities will be maintained by the WAG 3 OS.
- Waste profiles will be maintained by the WAG 3 OS until waste is sent to the ICDF Complex. (Records will then be incorporated into the ICDF tracking system.)
- SSA is identified in the Site Emergency Preparedness (Appendix L) plan and the SPCC plan for INTEC.
- Inspection records will be maintained by the WAG 3 OS until the waste is sent to the ICDF Complex. (Records will then be incorporated into the ICDF tracking system.)

### 3. Waste Acceptance Documentation and Transfer of Responsibility for storage

#### 3.1.1 Ensure physical parameters agree with the waste profile per the following inspection checklist:

- Ensure shipments are properly prepared and documented.
- Labeling is correct.
- Packaging is per WAC requirements.
- Notify generator of noncompliance and document discrepancies by phone.

- Correct documentation and/or discrepancies if possible, otherwise reject the shipment and return to generator.
- The RCT will survey all incoming radioactive shipments.
- Inspect seals, if applicable.

### 3.2 Documentation of Waste Receipt

#### 3.2.1 The WAG OS will ensure that the shipping documentation is in order:

- Ensure the transporter delivers the proper load manifests and documentation for the shipment as required by the SSA WAC.
- Ensure the waste is CERCLA-generated.
- Ensure the waste is stored in accordance with Operating Method 3.
- Ensure the waste is assigned to the proper storage area.
- Ensure the waste is off-loaded and copies of appropriate documentation given to the transporter for return to the generator.

**Note: The transporter is not released until documentation has been provided.**

## **E-4. SSA Operation Method 4**

### **Routine Waste Inspection**

#### **1. Purpose**

The purpose of this methodology is to ensure containers of CERCLA-derived waste materials are not damaged, degrading, or labeled with faded, smeared, or otherwise illegible markings. This methodology will provide a checklist and follow-up actions required to be taken to ensure correction actions are completed.

#### **2. Instructions**

2.1 The SSA OS, WGS representative or designated alternate must complete the SSA weekly (Appendix F) and daily (Appendix G) inspection checklists. Daily inspections are required for tanks systems stored in the SSA. All other inspections will be performed weekly.

2.1.1 Write the Registration Number and site on form.

2.1.2 Print the Date and Time on the bottom of form.

2.1.3 WAG 3 OS or WAG 3 WGS representative performs the inspection and completes the appropriate checklist.

2.1.4 Note any and all discrepancies on the form.

2.2 Correct all deficiencies within your control, and sign and date the Deficiency Resolution Status box on the Deficiency Resolution Tracking Table. (A Deficiency Resolution Tracking Table appears in Appendices F and G.)

2.3 If the deficiency is outside your control, such as a spill, notify the Emergency Coordinator and the SSA OS.

2.4 If any open discrepancies exist, make a copy of the checklist form and have the SSA OS sign off on the form.

2.5 Follow-up daily, if applicable, on the open items until all discrepancies are completed. Otherwise, follow-up on the open items during your routine daily or weekly inspections.

2.6 All records will be maintained in accordance with records storage procedures and CERCLA guidelines.

## E-5. References

- 10 CFR 61.56, 2000, "Waste Classification," *Code of Federal Regulations*, Office of the Federal Register, January 2000.
- 40 CFR 264, 2000, Subpart J, "Tank Systems," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.192, 2000, "Design and Installation of New Tank Systems or Components," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 264.193, 2000, "Containment and Detection of Releases," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 40 CFR 763.171, 2000, "Labeling Requirements," *Code of Federal Regulations*, Office of the Federal Register, July 2000.
- 49 CFR 171, 1999, "General Information, Regulations, and Definitions," *Code of Federal Regulations*, Office of the Federal Register, October 1999.
- Radiological Control Department, 2000, *Manual 15A - Radiation Protection - INEEL Radiological Control Manual*, Rev. 6, PRD-183, Idaho National Engineering and Environmental Laboratory, Bechtel BWXT Idaho, LLC, Idaho Falls, Idaho, July 2000.





**Appendix F**

**SSA Weekly Container Inspection Checklist And  
Deficiency Resolution Tracking Table**



## SSA WEEKLY CONTAINER INSPECTION CHECKLIST

SSA Registration Number: \_\_\_\_\_ SITE: \_\_\_\_\_

YES NO N/A

1.   \_\_\_   \_\_\_   \_\_\_   Is there Waste in the area? IF "NO", the inspection is complete. Sign and date below.
2.   \_\_\_   \_\_\_   \_\_\_   Is an up-to-date copy of the registration form posted at the area?
3.   \_\_\_   \_\_\_   \_\_\_   Are "**NO SMOKING**" signs posted in the area if storing RCRA-defined Ignitable or Reactive waste?
4.   \_\_\_   \_\_\_   \_\_\_   Are all waste containers labeled with the words "CERCLA WASTE"?
5.   \_\_\_   \_\_\_   \_\_\_   Are all non-waste items stored in the area appropriately marked or labeled for identification?
6.   \_\_\_   \_\_\_   \_\_\_   Is the housekeeping in the area adequate?
7.   \_\_\_   \_\_\_   \_\_\_   Is there adequate aisle space for personnel and equipment to respond to emergencies and/or conduct inspections?
8.   \_\_\_   \_\_\_   \_\_\_   Are all waste containers closed except when adding or removing waste?
9.   \_\_\_   \_\_\_   \_\_\_   Are all wastes segregated within the area to maintain requirements for compatibility?
10.   \_\_\_   \_\_\_   \_\_\_   Do quantities recorded in the log book equal quantities stored in the area?
11.   \_\_\_   \_\_\_   \_\_\_   Is a current copy of Appendix L of the INEEL Emergency Plan/RCRA Contingency Plan available in the SSA?
12.   \_\_\_   \_\_\_   \_\_\_   Are waste types and quantities in accordance with those specified in Appendix L of the INEEL Emergency Plan/RCRA Contingency Plan?
13.   \_\_\_   \_\_\_   \_\_\_   Is the Emergency and Communications Equipment present as listed in Appendix L of the INEEL Emergency Plan/RCRA Contingency Plan?
14.   \_\_\_   \_\_\_   \_\_\_   Are there, or have there been, any releases or spills in the area since the last inspection?
15.   \_\_\_   \_\_\_   \_\_\_   If "Yes" to question 14, has the spill or release been reported to the Emergency Coordinator listed in Appendix L of the INEEL Emergency Plan/RCRA Contingency Plan?
16.   \_\_\_   \_\_\_   \_\_\_   If "Yes" to 14, has the spill or release been remediated and the spill and remediation documented on this checklist?

17. \_\_\_\_ Do containers storing liquids have secondary containment, or are they otherwise prevented from discharging to open drains through dikes or berms?
18. \_\_\_\_ Are all containers and/or PCB items in good condition with no signs of leakage or deterioration?
19. \_\_\_\_ Is PCB containment volume equal to 2 times the internal volume of the largest PCB article or PCB container, or 25% of the total internal volume of all PCB articles or containers, whichever is greater?
20. \_\_\_\_ Is the entrance to PCB storage marked with a large PCB M<sub>L</sub> mark? (40 CFR 761.45)?
21. \_\_\_\_ Is each PCB item or container marked with a PCB M<sub>L</sub> or M<sub>S</sub> mark?
22. \_\_\_\_ Are PCB items marked with an out-of-service date, or is there an inventory list indicating out-of-service dates for items stored within a container?
23. \_\_\_\_ For PCB wastes, are all out-of-service dates <9 months old, unless the PCB item is stored because of no treatment or disposal options for radioactive contamination?
24. \_\_\_\_ Have previously identified deficiencies undergone resolution? Indicate status on back of inspection form.

Additional Comments:

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## CERTIFICATION OF INSPECTION

I certify that all of the above applicable items have been inspected.

Date \_\_\_\_\_ Time \_\_\_\_\_

Name (print) \_\_\_\_\_ Inspector Signature \_\_\_\_\_

## SSA WEEKLY CONTAINER INSPECTION DEFICIENCY RESOLUTION TRACKING TABLE

For each deficiency identified on the inspection checklist, note the item number and describe the nature of the deficiency in the table. Each week, indicate the status of previously identified deficiencies that have not yet been resolved. Upon resolution of any deficiencies, document in the “Deficiency Resolution Status” column how the deficiency was corrected and place any applicable documentation in the project file.

Table F-1. Deficiency resolution tracking table.

Inspection Item Number	Date Identified	Description of Deficiency	Deficiency Resolution Status

This Checklist must be maintained at the facility for the current inspection year and 5 years hence.



## **Appendix G**

### **SSA Daily Tank Inspection Checklist and Deficiency Resolution Tracking Table**





## SSA Daily Tank Inspection Checklist

SSA Registration Number: \_\_\_\_\_ SITE: \_\_\_\_\_

YES NO N/A

1.   \_\_\_   \_\_\_   \_\_\_   Is there Waste in the tanks? IF "NO", the inspection is complete. Sign and date below.
2.   \_\_\_   \_\_\_   \_\_\_   Are all tanks properly labeled (i.e., "empty", "potable water" or "CERCLA waste")?
3.   \_\_\_   \_\_\_   \_\_\_   Are the waste levels in the primary tanks below the top of the secondary containment?
4.   \_\_\_   \_\_\_   \_\_\_   Is there any sign of corrosion or release of waste from the primary tank to the secondary containment? An example of a release to the secondary containment would be an observation of an increase of liquid in the secondary containment that cannot be attributed to rain or snow accumulation.
5.   \_\_\_   \_\_\_   \_\_\_   Are there signs of erosion or releases of waste on the construction material or area immediately surrounding the tanks and their secondary containment?
6.   \_\_\_   \_\_\_   \_\_\_   Have previously identified deficiencies undergone resolution? Indicate status on back of inspection form.
7.   \_\_\_   \_\_\_   \_\_\_   Do the tanks have overfill control equipment and is the equipment in good working order.
8.   \_\_\_   \_\_\_   \_\_\_   Do the tanks have monitoring equipment and leak-detection equipment and do the data from these equipment indicate the system is being operated according to its design?
9.   \_\_\_   \_\_\_   \_\_\_   Is there any sign of erosion or releases of hazardous waste (e.g., wet spots, dead vegetation) on the construction material or on the area immediately surrounding the externally accessible portions of the tank system (to the environment)?

Additional Comments:

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### CERTIFICATION OF INSPECTION

I certify that all of the above applicable items have been inspected.

Date \_\_\_\_\_ Time \_\_\_\_\_

Name (print) \_\_\_\_\_ Inspector Signature \_\_\_\_\_

## SSA DAILY TANK INSPECTION DEFICIENCY RESOLUTION TRACKING TABLE

For each deficiency identified on the inspection checklist, note the item number and describe the nature of the deficiency in the table. Each day, indicate the status of previously identified deficiencies that have not yet been resolved. Upon resolution of any deficiencies, document in the “Deficiency Resolution Status” column how the deficiency was corrected and place any applicable documentation in the project file.

Table G-1. Deficiency resolution tracking table.

Inspection Item Number	Date Identified	Description of Deficiency	Deficiency Resolution Status

This Checklist must be maintained at the facility for the current inspection year and 5 years hence.

